NATIONAL PETROLEUM NEWS

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Industrial Lubrication Service Approved As New N. P. M. A. Activity

By Roger B. Stafford
N. P. N. Staff Writer

LOUISVILLE, Nov. 24

THE annual fall convention, or conference, of the National Petroleum Marketers Association attracted more than 1,000 men and two women interested directly in the distribution of petroleum products or the equipment necessary to such distribution.

Association business transacted at the six sessions in three days can be summed up:

1. Decision of directors to establish a department of industrial lubricating engineering.
2. Adoption of resolution favoring retail and tank wagon markets for gasoline based on spot market prices at refineries.
3. Adoption of resolution for lower tank car prices to distributors of petroleum products than are granted to casual buyers, such as industrial concerns.
4. Decision to investigate possibility of group liability insurance risks not now ordinarily covered, such as losses incurred through misdeliveries, explosions damaging property other than that owned by persons other than the insured, and similar classifications.
5. Confidence voiced in committees which are investigating the possibility of a jobber-owned cracking plant, concerning which preliminary reports were presented.
6. Heard and approved advertising plans of Independent Oil Men of America for 1926, this being the joint advertising group of the association.

The conference, and a splendid exhibit of the latest devices used in distribution, were held in the Jefferson County Armory here Nov. 17, 18 and 19. While some exhibitors said they did not sell as much goods as at the Cleveland convention in 1924, others reported sales fully up to expectations with some selling more than they had expected. The exhibit was exceptionally well arranged for the convenience of oil men attending.

L. V. Nicholas was re-elected president and 10 directors were re-elected. Three vice-presidents and three new directors were elected.

Three set addresses or papers were presented, and two short talks on advertising were given. John Rome Battle, Philadelphia, lubrication consultant, read a paper entitled, "Industrial Lubrication," which appears on Page 59 of this issue. Harry F. Brownell, Brownell Corp., Sioux Falls, S. D., spoke on "The Lesson We Must Learn from the Mistakes in South Dakota," which is to be found in this issue starting on page 66. C. C. Parlin, Curtis Publishing Co., Philadelphia, spoke on national advertising. Short talks were given by E. P. Nesbitt, Critchfield & Co., Chicago, which handles the I. O. M. A. advertising, and by J. C. Elliff of the Curtis Publishing Co.

After the discussion which followed Mr. Battle's paper, President Nicholas announced the decision to establish a lubricating department which co-incidentally had been suggested by Mr. Battle before the directors' plans had become known. It will be the duty of the engineer in charge to study the individual and collective industrial lubrication problems of members of the association. The directors even approved a plan to have the engineer visit the headquarters of the association members to go into special lubrication problems, Mr. Nicholas said. By having expert advice always at hand, association members hope to get some of the lubricating business which is now going to some of the large companies who have experienced lubrication engineers on their staffs.

Detailed Account of Convention Proceedings on Pages 26 to 27

Col. Lyons, Prominent Refiner, Drowned in Allegheny River

WARREN, PA., Nov. 23

JUST as he was completing arrangements to start actively in the refining business again, after having given up his earlier connection some months ago, Col. U. G. Lyons, president of the newly organized Lyons Refining Co., met his death by drowning in the Allegheny river Nov. 22.

With his chauffeur, Blaine Jones, Col. Lyons was bringing his houseboat down the river from Oil City, where he had left it most of the summer. He had first planned to tie it up for the winter at Kitanning. When this point was reached it was decided to take the boat farther down the river to some point near Pittsburgh. As they approached Dam No. 3, near Springdale, the current was swifter than the 15-foot houseboat, with a small motor, could maneuver in and the boat missed the entrance to the lock, going over the 10-foot dam.

The chauffeur managed to cling to the wreckage of the boat at the foot of the dam until he was rescued by a party in a launch, who reached the scene only a few moments after the houseboat had gone over. No trace of Col. Lyons could be found and it is thought he was swept away by the current as the boat struck the dam. Up until a late hour today his body had not been recovered, and many believe it will not be found at the present high stage of the river.

At 57 years of age, Col. Lyons was actively engaged in making preparations to start in the refining business again. A few months ago he retired from the Conewango Refining Co., of which he had been the directing head practically since its organization in 1899. Recently he had secured the refining plant of the Crown Central Petroleum Co. at Clarendon, Pa., organized a new company and was to start running the plant before the end of the month. His only son, Grant Lyons, was connected with him in this enterprise. Col. Lyons took great pride in telling of his plans for operating his new company.

Early in Oil Business

Born in Pittsburgh, near the present site of the Waverly Oil Works, Col. Lyons was brought up in the atmosphere of the then new oil industry. When he was hardly more than a youth, several producers organized the Emlenton Refining Co. to handle their own crude production, and they placed young Lyons in charge. A few years later he went to Titusville with the Oil Creek Oil Co., another early refinery. About this time he served in the Spanish-American war, coming back with the title of captain.

In 1899 he came to Warren, having just made his connection with the Fred G. Clark Co and bought a small plant which was not then running and this he developed into the present Conewango Refining Co. Col. Lyons was the first refiner to offer bright stocks without restrictions to the trade for the manufacture of high grade lubricating oils. This was about 1902. Previously these grades of lubricating stocks, manufactured by only a few plants, were not offered to the trade generally, most of their output being taken by the Standard Oil Co.

Col. Lyons was called on to leave his desk during the late war and organize the oil branch of the quartermaster's department, which handled purchasing by specifications and inspecting all the army's requirements of lubricating oils. It was during the efficient handling of this work that he was made a colonel.

Helps Organize Association

Col. Lyons was one of the organizers of the National Petroleum Association, the organization of eastern refiners, and he served as president of the association for three years, retiring a year ago this past fall. He was actively connected with civic undertakings in Warren where he made his home, and was a director in a bank there.

Besides his son Grant Lyons, he leaves two daughters, Jane and Frances, and a widow. He has three brothers. Louis Lyons is with the Westinghouse Electric & Mfg. Co.; Joseph L. Lyons is in charge of sales for the Damascus Mfg. Corp., Cleveland; and John R. Lyons, is associated with the Calumet Refining Co. at the Cleveland office.

Coming Meetings

Minnesota Petroleum Association, Duluth Hotel, Duluth, Dec. 4.

Rocky Mountain Oil & Gas Association, Great Falls, Mont., Dec. 4, 5.

Indiana Independent Petroleum Marketers Association, Indianapolis, Dec. 9.

American Mining Congress, Washington, D. C., Dec. 9, 10, 11.

American Petroleum Institute, Hotel Biltmore, Los Angeles, Jan. 19, 20, 21.

Michigan Independent Oil Men's Association, Detroit, Mich., Jan. 21, 22.

Western Petroleum Refiners Association, Texas Hotel, Fort Worth, Tex., March 2, 3, 4.

Hunt is New Treasurer

NEW YORK, Nov. 21.—S. B. Hunt, vice president of the Standard Oil Co. of New Jersey, has been elected treasurer, succeeding George H. Jones who recently was made chairman of the board of directors.

Would Have Institute Define Conservation

WASHINGTON, Nov. 24.--Secretary Work, of the Department of the Interior, has turned a deaf ear to all requests for information as to what the Federal Oil Conservation Board, of which Work is the chairman, would like to have the American Petroleum Institute talk about under the head of conservation, as requested in the letter sent to it last week. Specifically, he told the writer he had not anything to add to what he had written.

There is a suspicion in the minds of those who have been trying to get something in the nature of an appendix to the letter that was sent out that it is a case of trying to get the Institute to define conservation and then express views about the straw man it had erected. There is no accepted definition of conservation and the one who discusses it must set up his own conception and then either advocate or oppose some particular definition. The Institute, or rather the Committee of Eleven of the Institute, did not define the term. Neither did the conservation board, hence, it is obvious that if the Institute is to go into details, as requested, it will have to set up a definition and supply the particulars of why it has done so, also the details of why some other definition would not be the one toward which to work.

Inasmuch as the Institute did not propose the inquiry, it has been suggested, the burden was not on it to say what conservation might be and how it might be achieved.

The letter which the board addressed to President J. Edgar Pew, of the Institute, was as follows:

"The subject of conservation particularly stressed in the President's letter of December 19, 1924, appointing the Federal Oil Conservation Board, is barely mentioned in the book entitled, 'American Petroleum Supply and Demand,' and refers solely to improved refinery practice and more efficient utilization of refined products.

"It would be helpful if the American Petroleum Institute would consider more in detail the conservation aspect both of production and consumption, and give this Board the benefit of its conclusions.

"Appreciating your courteous replies to our several letters of inquiry, we would be pleased if you will supply to us this additional information as promptly as convenient, as we are making an effort to conclude our general inquiries."

The letter is taken as indicating that there is hardly any chance of President Coolidge mentioning the subject in his annual message to Congress except, possibly, to say the inquiry is going on.

District Meeting for Minn. Jobbers

MINNEAPOLIS, Nov. 24.—A district meeting of the Minnesota Petroleum Association will be held at the Duluth Hotel, Duluth, Minn., on Dec. 4, according to Paul E. Hadlick, secretary.

Try Again to Stop New Export Rate

Staff Specal

TULSA, Nov. 21.—A final effort is to be made by refiners in the Mid-Continent field to avert an increase in export rates to New Orleans which is to be put into effect on Dec. 10, as a result of the port equalization case recently decided by the Interstate Commerce Commission. Tariffs showing the new rates reached the field here within the past few days.

The port case was brought by the Chamber of Commerce of Galveston in the interests of Texas ports. It was pleaded that Texas ports should have the advantage of their shorter distance to producing points to offset their disadvantage with Louisiana ports in point of ocean rates.

New tariffs just published show an increase of four cents per hundred from most refining centers in north Texas to New Orleans and vicinity making the new rate 24½ cents per hundred. A few outlying points have much larger increases. The rate of 20½ cents per hundred to Galveston and other Taxes ports was unchanged.

From Oklahoma and Kansas a majority of the rates have been raised 3 cents per hundred to 25 cents. In only three or four instances are rates left at the old level of 22 cents per hundred. Tulsa and Muskogee will have the 22 cent rate to New Orleans in Oklahoma and Coffeyville and Neodesha will have the same rate while Wichita, El Dorado and Arkansas City will have the 25 cent rate.

By far the greatest portion of the export gasoline sold by Independent refiners in the Mid-Continent field moves through New Orleans terminals rather than through Galveston. The Atlantic Refining Co., Carson Petroleum Co., Sinclair Refining Co., and the Standard Oil Co. of New Jersey are the principal purchasers with New Orleans Refining Co. buying occasionally. Every one of the buyers mentioned has terminals on the Mississippi. The Gulf Refining Co., Texas Co., Magnolia Petroleum Co. and other companies with Texas port facilities are not consistent buyers.

Competition for export business is very keen at all times and a minor fraction of a cent per gallon often means the difference between making or losing the sale of a cargo of gasoline. Refiners fear that their winter outlet for high gravity gasoline will be very much restricted unless the rates are withdrawn before December 10.

Refiners in the Mid-Continent have asked for a suspension of the rates pending an investigation by the Interstate Commerce Commission. No action has been taken on this petition as yet. It is understood that the Chamber of Commerce of New Orleans will go into the federal court and ask for an injunction to prevent the carriers from putting the new rates into effect.

The following table gives new and old rates from a number of refining centers in Oklahoma, Kansas and Texas to New Orleans with the amount of change:

Rates in Cents Per Cwt. to New Orleans

Point of Origin	Present	New	Increase
Wichita Falls ...	20½	24½	4
Fort Worth	20½	24½	4
Megargel	20½	28½	8
Amarillo	25	26½	1½
Tulsa	22	22	None
Ponca City	24½	25	½
Okmulgee	22	25	3
Ardmore	22	25	3
Muskogee	22	22	None
Wichita	22	25	3
El Dorado	22	25	3
Neodesha	22	22	None
Coffeyville	22	22	None

Are Made Vice-Presidents Of Indian Refining Co.

LAWRENCEVILLE, ILL., Nov. 23.—The election of Basil H. Anglin, sales manager, and Dr. Frank Fritts, assistant to the president, to the board of directors of the Indian Refining Co. and their appointment as vice-presidents of the company, has been announced at the company's headquarters here. This is in line with the policy of Col. James H. Graham, president, to have on the board of directors actual executives of the company.

Mr. Anglin has had unusual advancement in the company since he started in five years ago buying crude for the company in Oklahoma. He next served as a district manager in Chicago, then as station manager. At the start of 1924 he was placed in actual charge of sales, the granting of the title of sales manager being withheld until a year ago, when he in reality won the title through his work for the year in directing sales. He is a very popular official of the company.

Dr. Fritts came into the Indian Refining Co. through the bankers' door. After an enviable record in the war and in special government work afterwards, he set up in the practice of law in New York and was asked by a banking firm to make a survey of the properties and business of the Indian Refining Co. When he made his report he was asked to spend six months with the company to put his suggestions into effect, and he has stayed on since. He looks after the personnel work of the company particularly.

CLEVELAND, Nov. 23.—Judge C. D. Chamberlin, general counsel for the National Petroleum Association, has returned from a hunting and fishing trip in Michigan, his health much improved. His law firm, Chamberlin, Marty & Fuller, have moved to 1318 Guardian Bldg.

Oil Taken From Lease Court Rules as Income

WASHINGTON, November 23.—WHEN a man sells his oil lands and/or leases to such lands, the government, in calculating the profits he has made by such sale, is not entitled to add to the selling price the value of the oil that has been taken out of the lands. Oil taken from a well is not capital but income.

That is the substance of a decision by the Court of Claims of the United States in Charles A. Ludey vs. United States. Ludey is an oil man of Parkersburg, W. Va., who bought lands and leases in Oklahoma, some before and some after March 1, 1913. Some of those bought before March 1, 1913 were sold for more than he paid for them but for less than their face value on that date.

When he made his income return in 1918 he said he owed the government $2,110.15. On Nov. 9, 1923, Ludey paid $10,856.66 in addition, under protest, because the collector of internal revenue was threatening to impose penalties. Ludey sued to recover the excess paid in 1923 and any other sum he might have unlawfully been called upon to pay. He recovered judgment against the government for $12,212.58, the court finding that he was due to pay only $2,073.36, or about $37 less he said he owed.

The internal revenue collector, in calculating the profits Ludey made in selling two tracts of land owned in fee and three leases, added to the selling price of the land and leases the amounts received from the oil and said that that was the profit upon which Ludey had to pay a profits tax. The Internal Revenue Bureau treated him just as if he had bought a house for $10,000, sold it for $9,500 but in the same time held it had collected $1,000 as rent. Upon that sort of figuring it would figure that he had made a profit of $500 instead of having suffered a loss of that amount.

A unanimous opinion of the five judges constituting the court held that the tax officials were wrong. Judge Graham, author of the court's opinion, charitably said the tax officials probably fell into confusion on account of erroneous view as to the character of the property rights of Ludey. He pointed out that what Ludey sold was a right to the buyer to take oil out of the ground if he could find any. That, he said, was all he obtained from those from whom he bought the land and the leases, and that was all he could convey.

What effect this decision will have upon the vexed question of depletion is for the Internal Revenue Bureau to decide and then, if the tax-payer does not agree with the view held by the tax officials, he can go to the court again. But it seems to make a sharp distinction between capital investment in the lease and equipment and the product of the investment.

First Meeting at Louisville 15 Years Ago

FIFTEEN years ago last July the first annual meeting of what is now the National Petroleum Marketers' Association was held at Louisville. It was then the Independent Petroleum Marketers' Association. The registrations ran a shade under 200 and registration at that meeting was free.

Among those who were present at that first annual meeting and also the last annual meeting were:

W. O. Hudson, Marine Oil Co., Ltd. New Orleans, member of the executive committee in both instances.

Richard A. Wotowitch, then with the Animal Oil Co. of Philadelphia, now with H. L. Doherty Co., New York.

E. L. Cannon, Warren Refining & Chemical Co., Cleveland.

S. D. Hastings, Barkhausen Oil Co., Green Bay, Wis.

F. F. Taylor, Stevens Grease & Oil Co., Cleveland.

Thos. E. McArdle, then with Fred G. Clark Co., Chicago, now with the Premier Oil Co., Chicago.

C. F. Bradley, Gulf Refining Co., Pittsburgh.

J. A. Cannon, then with the national Refining Co., Cleveland, now with the A. J. Stevens Gas & Oil Co., Kansas City.

J. L. Walsh, then in charge of jobbing sales for the Great Western Oil Co., Cleveland, now in charge of jobbing sales for the Continental Oil Co., Kansas City.

E. B. Piepho, St. Louis Tin & Sheet Metal Works, now known as the St. Louis Can Co.

A. H. Caward, Hawkeye Oil Co., Waterloo, Iowa.

E. H. Hilpp, Kentucky Consumers Oil Co., Louisville.

G. S. Forcier, then with the Allen Petroleum Co., Pittsburgh, now in with a number of oil interests and living at St. Louis.

Chas McLean and Harry M. Carruth both of the Canfield Oil Co., Cleveland and both back representing the same company at this meeting.

G. J. Steigerwald then with the Fred G. Clark Co., now in business as Wall & Steigerwald, Cleveland.

The president of the association at that time was Thos. L. Hisgen, a man whom Hearst ran for president some years before and who is now in the oil business at Springfield, Mass., and Albany, New York.

L. F. Ross, then with the American Steel Package Co., Defiance, Ohio, was the chief organizer in charge of ceremonies. The last word from him is that he is getting back to his health in the woods in Washington.

First vice-president elected 15 years ago was A. J. Callaghan, American Oil Co. and of the Advance Grease & Chemical Co., Jackson, Mich.

Second vice-president was H. C. Mather of the Charles H. Moore Oil Co., Cincinnati, now part of the Pure Oil Co. Mr. Mather drowned while fishing some years ago.

Third vice-president was A. H. Caward.

Treasurer was F. C. Bretsnyder, Bell Oil Co., St. Louis, since gone out of business.

Secretary, W. C. Platt, National Petroleum News, Cleveland.

Sergeant at Arms, S. D. Hastings.

Members of the executive committee were Messrs. Hudson, New Orleans; W. D. Simmons, Viscosity Oil Co., Chicago; Frank M. Smith, Oriental Oil Co., Dallas, Tex.; E. H. Hilpp, Kentucky Consumers Oil Co., Louisville; E. M. Wilhoit, Springfield, Mo.; W. H. Barber, W. H. Barber Co., Minneapolis, and Grant Collins, Cedar Rapids Oil Co., Cedar Rapids, Iowa.

Cooperative Refinery Committee To Continue Its Work

A PROPOSITION which is attracting as much attention as any other matter before the National Petroleum Marketers' Association is that of a jobber-owned and operated cracking plant. A great deal of interest also has been aroused in the oil industry outside the ranks of association.

A preliminary survey has been made for the association on the feasibility of a cracking plant by the Power Specialty Co., New York engineers, but the association committees having the project in charge have taken no final action. The project was reported on at Louisville Act. 19.

A. G. Maguire, Bartles-Maguire Co., Milwaukee, chairman of one committee working on the proposition, presented arguments for the plant. At the request of President L. V. Nicholas, W. M. Welch, refinery engineer, Tulsa, told what he thought of the cracking plant idea. He was generally against it as a cracking plant proposition, without facilities to run crude to provide a charging oil for the cracking stills.

The preliminary report of the Power engineers was on a tentative plan to build a cracking plant in the vicinity of St. Louis. Earlier it had been proposed to get estimates and data on two other plants, one at East St. Louis, Ill., and another near Tulsa. The East St. Louis and Kansas City plants were to be of a capacity of 30,000, 50,000 or 75,000 barrels of gasoline per month, and the Tulsa plant for the manufacture of 50,000, 75,000 or 100,000 barrels per month. The cost of tank cars was eliminated, but adequate storage for fuel and gas oil for 60 days, gasoline for 30 days, and furnace oil distillate for 120 days were to be figured in. The figures were read before the conference from a letter from Walter Anderson, Winona, Minn., chairman of the association's committee which is co-operating with the jobbers committee Mr. Maguire consented to head.

Mr. Nicholas explained that the association had taken no position on the proposition and that he himself had not reached an opinion about it. Mr. Maguire was appointed in the Anderson committee to work out a financing plan and Tom E. Meece, Leader Oil Co., Dubuque, was selected to investigate possible locations.

The engineers' report was not made public, but is being mailed to members of the committees. But after reviewing the growth of the Independent distributing business from the time of the discovery of great quantities of crude oil in the Mid-Continent and the building of many skimming plants which supplied the Independent jobbers with gasoline, Mr. Maguire gave some general findings: He said in part:

"Taking all petroleum prices as they exist today in Group 3, for a refinery in that group, we find this: The cost of making gasoline in a modern cracking plant out of gas oil or good fuel oil, is about 1¾ cents per gallon less than the cost of making gasoline by a strictly modern crude oil refinery, located in the same territory, running crude oil and cracking its entire residuum. In other words, a cracking refinery, given its gas oil or fuel oil at today's market cost, can make gasoline that much cheaper than the large refinery equally equipped as to cracking and depending primarily on crude oil.

"Furthermore, if you increase the value of gas oil and fuel oil the cracking plant would have to purchase by 50 per cent, a cracking refinery like the one under consideration could make gasoline as cheaply as a large refinery running crude oil and cracking all its own gas oil and fuel oil as well. The large complete refinery is exactly the kind of a refinery you will have to compete with in the future, not the skimming plant.

"The engineer's report has not attempted to say what it costs to make gasoline in a skimming plant. At present market prices we must assume in light of the above example that it must cost more to make gasoline in a skimming plant than it does in a modern crude oil refinery with cracking facilities. Assume for a moment that it costs as much more

as complete refining costs above cracking, 1¾ cents per gallon. There you have your spread.

"We will use an example. We will say the cracking plant makes gasoline for 7 cents, the largest complete refinery for 8¾ cents, and the skimming plant for 10½ cents.

"These figures are not based on facts, but are arbitrary to help you visualize. Then suppose these figures were accurate and these spreads were there, for what do you think you would buy gasoline under such figures? You would pay the the market price, and who makes the price? As a matter of fact, you certainly could not expect to buy your gasoline for much if any lower than the skimming plant can make it even for a short space of time. You wouldn't have to pay a great profit to the skimming plant, of course, because he has too much cracking competition. But you would in the end pay him a small average profit without doubt, and I think you would average about 11 cents for your gasoline if these costs were actual.

Skimming Plants Will Remain

"The skimming plants which weathered the storm so far, those in the fields where crude oil is available, are not going to pass out of the picture. Many of them today are selling more or less of their gas oil and fuel oil to refineries that crack. And they get a slight premium above the market for cracking gas oil. With any scarcity of crude oil, with any great demand for gasoline, these cracking residuums will slowly demand a greater premium and, the more the skimming plant gets for his heavy oils, the cheaper he can make gasoline.

"If you start with the values as they existed last summer, 3 cents on gas oil and $1 on fuel oil, the skimming plant will be able to make gasoline without a cracking plant as cheaply as a modern refinery if he can get 4½ cents for his gas oil and $1.50 per barrel for his fuel. This, of course, is assuming that crude prices remain as they are today, a very unlikely thing if gasoline becomes so scarce that fuel oil and gas oil are advanced 50 per cent in value.

"Remember this: A modern cracking still can be made to crack any liquid product of petroleum. It may not do it in one operation, but it can do it by separating the residuum if it has to. Therefore, you are not likely to see fuel oil and gas oil, even the kind best suited for cracking, soar in values to extraordinary heights.

"There happens still to be about 400,000 barrels daily of heavy residuums of one kind or another sold mostly as fuel oil, to burn under boilers and compete with coal. That is a great amount of potential cracking stock the oil industry has available, to guarantee itself against a gasoline shortage. There is enough there to take care of gasoline consumption increase for almost five years, with no additional crude oil production anywhere in the world.

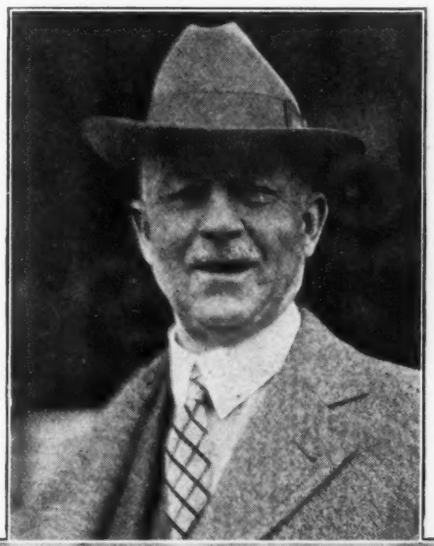
A Reserve Supply

"Another interesting fact is that this great potential supply five years ago, though smaller, was equal to the same emergency then. So there has been little relative change in the supply of fuel oil and gas oil during these five years. In other words, the increased production of crude oil has amply provided for the increased consumption of both gasoline and fuel oil. There is more cracking, more crude oil and more fuel oil by about the same ratios.

"Suppose 10 jobbers who annually buy 47,500,000 gallons of gasoline decided to build a small cracking refinery down in the Barber-Billings-Tonkawa field. They would not attempt to supply their entire gasoline requirements, but say 40 per cent of it. Their purchase, therefore, would not be for 47,500,000 gallons of gasoline as it is now, but for 28,600,000 gallons of gasoline and for about 684,000 barrels of cracking stock. The latter amounts to about 10 cars per day.

"Suppose the owners of this refinery, men who were still buying outside 28,600,000 gallons of gasoline, were to say to a few of the best skimming plants nearby, 'Ship us over about 2,000 barrels a day of good straight run gas oil or fuel oil at a price any one else will pay for it. We will take it by pipeline so you don't have to use any tank cars. In return we will give you the preference on an equal amount of gasoline that we

LOUISVILLE, Nov. 19.—An invitation to hold the fall convention of 1926 in Philadelphia was brought to President L. V. Nicholas and the board of directors by J. Shlifer, Intercity Oil Co., Philadelphia. The sesqui centennial exposition commemorating the declaration of American independence will be held there from June 1 to December 1, and the city is striving to have national conventions held there during that time. The invitation, delivered by Mr. Shlifer, was sent by Mayor Kendrick and the Philadelphia Chamber of Commerce.



N. P. N. Staff Photo

Above Fred C. Cramer, head of the Denver Powerine Co., Denver, approved the general proceedings. His smile tells that much. Below. Col. E. H. Hilpp, Kentucky Consumers Oil Co., Louisville, the man in the dark overcoat, undertakes to explain how unusual it is to have a cloudy day in Louisville such as happened the last day of the convention. Sam Hastings, of the Barkhausen Oil Co., Green Bay, Wis., at the left, remains skeptical. At the right are W. W. Springborn, Fairmount Oil Co., Cleveland, and H. D. Billings, St Louis Can Co.

have to buy, or we will work out a contract with you so we will both benefit.' What reply do you think you would get?"

"The committee of which I am chairman is busy now preparing data of costs, financing and operation of three fairly small cracking refineries in three localities. When this is accomplished the time will come for earnest thinking. We are trying to cover the field carefully.

"The Power Specialty Co. did not pick out or recommend or treat with any one particular cracking process. They used, I understand, three or four, and got a sort of composite picture. They made values and costs literally based on three or four."

Mr. Nicholas opened the way for Mr. Welch by asking him if he had something to ask to throw light on the proposal. Mr. Welch said:

Should be Complete Plant

"I have been a refiner for seven or eight years, and I don't quite see how a refinery could run continuously over a period of years upon the so-called by-product of other refineries.

"I am inclined to believe that a cracking refinery, without the balance of the equipment, would be uneconomic over a period. There would be times when it would be operated profitably, but I don't believe that it could be operated profitably throughout the period.

"The cracking part of the refinery is the most expensive. It runs into a tremendous amount of money as it is now developed in the industry. The skimming plants that are now in operation, with one or two exceptions, in Mid-Continent or any other refining territory are practically obsolete from an economic standpoint. It would be just a waste of time to try to line up at present a skimming plant and coupled with it, cracking capacity.

"The purely skimming operation in the Mid-Continent is in a rather hazardous condition. Those that have been able to finance cracking units are operating successfully and they can expect to make money on their operations. Those that haven't been able to put in cracking facilities, are in such shape that it would be hopeless to try to pull their chestnuts out of the fire."

At the conclusion of the impromptu debate a vote of confidence in the committee was made on motion of F. E. Bergfors, Quincy Oil Co., Quincy Adams, Mass. The jobbers so far interested in the cracking plant has subscribed $1,090,000 for one in addition to paying the costs of the engineers' survey. The association is acting only as a vehicle to give aid to the jobbers.

N. P. N. Staff Photo

A real veteran of the oil jobbing business. A. H. Caward, Waterloo, Ia., long identified with the Hawkeye Oil Co., and allied enterprises. The substantial citizen at the right is Fred H. Buehler, Dacotah Oil Co., Madison, S. D., secretary of the state jobbers' association there.

N. P. N. Staff Photo

Part of the representation of the Canfield Oil Co., Cleveland, Chas. McLean, vice-president and H. M. Carruth, secretary.

The Itinerant Paper Was At Louisville

LOUISVILLE, Nov. 20.—An edition of Oil-Power News, the itinerant newspaper of the Indian Refining Co., made its appearance the first day of the N. P. M. A. convention. It carried news of the opening of the convention and, incidentally, scooped all other publications in the publishing of the story of the advancement of B. H. Anglin and Dr. Frank Fritts, of the executive staff of the company, each to the position of vice president and member of the board.

Editor John S. McCarthy takes great pride in his newspaper, and carries proudly in each issue the announcement, "The only itinerant newspaper in America." Some few years ago he was down in Norfolk, Va., and the occasion came up to have some reports concerning the company's operations there printed. Being a dyed-in-the-wool newspaper man, he ran them off in exact reproduction of the makeup of the Virginia-Pilot, a daily newspaper of Norfolk.

The idea made a hit with the company. Now, whenever he has enough general material to carry to Indian Refining Co. people to warrant getting out an issue, he uses the equipment and copies the makeup of the daily paper of wherever he happens to be. He has gotten out issues at Trenton, N. J.; Camden, N. J.; Lawrenceville and this latest at Louisville.

Collective Buying Department Working Successfully and Still Expanding

COLLECTIVE buying by the National Petroleum Marketers' Association, a project set afoot a year ago at the association's convention in Cleveland, has proved successful, according to both President L. V. Nicholas and F. H. Emig, who has charge of the buying department.

Although members of the association pledged to buy only one carload of gasoline a month through the association, some are purchasing 10 to 15, Mr. Emig said. However, some advocates of the plan have failed to buy their share of gasoline, Mr. Nicholas commented, but others who were not parties in arranging the department have helped to support it splendidly.

"Your department is not only over the top, but it is a real going concern," Mr. Nicholas said. "I think we are building with a group of refiners who are glad and willing to work with us, for they tell us they are very well satisfied and pleased with the co-operation that the department has been able to show them.

"As you know, the department is not organized for profit; we are a non-profit organization. The department was not organized to hold a club over a refiner, but as a means of giving definite expression to the refiner who is not a parallel competitor of ours, and we were glad and willing to give him our business where and when we could.

"If you remember, at that meeting we stated that we had absolutely no quarrel with the parallel concerns who manufacture and sell their products through their own stations, and also solicit us for business. We have no objection and no criticism of any kind or description of any men in the organization who purchase from them, either all of their supplies or part of their supplies, but we do feel it is fundamental and essentially sound that we as jobbers must have a source of supply to fall back on that is non-competitive.

"Mr. Emig recognizes that there are many of our members (there are several of our directors) who have not been able to place business with the collective buying department for geographical reasons. A department of this kind could not be established over night and furnish California sources of supply, Texas sources of supply, Mid-Continent, Louisiana and Atlantic seaboard.

"Many of our members are glad and willing to support the department, but we have been unable to give them service. We are growing and expanding, and if you will just give us the chance at the orders, we will turn them down quick enough so that it won't make much difference with you, if any. As we get the orders and get the tenders of business, we can establish the connections that will take care of you and see you through."

Mr. Emig in a brief talk about the department said:

"If there are any complaints about orders that come in occasionally, we will gladly straighten them out.

"We have wonderful co-operation with our refinery sources of supply. They have increased from one or two to eight or 10, depending upon what amount we need at the present time, based upon the volume of our orders received.

"I would like to see the members of this association, through the collective buying department, eventually purchase all of their supplies that way. If we need 25 refiners to do it, so much the better. We wouldn't have any competition from the refining branch of the industry. We would have what we might term a large integrated organization within the association itself."

N. P. N. Staff Photo

F. H. Emig, head of the marketing department installed by the National Petroleum Marketers Assoc.

N. P. N. Staff Photo

A familiar figure in a new role T. E. Meece used to be a refiner. Now he is with the Leader Oil Co. Dubuque, Ia., full-fledged jobbers. Right is Chas. C. Peppers, Champlin Refining Co., Enid. Okla.

N. P. N. Staff Photo

The north and south of it get chatty while waiting for the show to start. R. H. Downes, Thompson Oil & Supply Co., Oshkosh, Wis., and D. T. Evans, Stone Oil Co., Houston.

National Petroleum News

Compilation Of Mid-Continent Refinery Operations

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Heavy Oil Inventories are Reduced; Gasoline in Balance

By Fast Wire Service

TULSA, Nov. 24

HEAVY drafts on fuel and gas oil inventories were made by refiners in the Mid-Continent field the third week in November. Kerosene stocks were drawn on substantially, reaching a new low level. Production and shipments of gasoline nearly balanced, there being a small increase in stocks at the 124 plants reporting to this publication weekly.

Taking the field as a whole, there was virtually no change in the scale of operations of reporting plants. Daily average still charges of crude and partly refined oils for the week ending Nov. 20 was 291,886 barrels, as compared with an average of 289,592 barrels per day during the week ending Nov. 13. Oklahoma refiners reduced their runs around 3500 barrels per day, while other groups took up their slack.

Shipments of gasoline increased strongly in Oklahoma, over balancing the slight decrease in demand reported by other fields. From all plants shipments increased 350,000 gallons during the week to 27,585,400 gallons. Production of gasoline increased 650,000 to 27,919,515, causing total stocks to increase a little over 300,000 to 51,495,264 gallons, which represented only 13 days' supply at the rate of shipments maintained during the week.

Kerosene shipments likewise were much heavier in Oklahoma and north and central Texas than the week before. Oklahoma shipments increased 400,000 gallons, and Texas shipments 570,000 gallons, with the result that total shipments overbalanced production by 700,000 gallons and total stocks dropped to 14,180,475 gallons, 16 days' supply at current consumption rates.

Every group of refiners in the entire Mid-Continent field reported a draft on stocks of gas and fuel oil. Shipments were 40,651,976 gallons, while production was 35,922,242 gallons, causing stocks to drop to 187,475,275 gallons. This figure is 21,121,077 gallons below the level of stocks four weeks ago, showing that the heavy movement of fuel oil has continued without interruption for a full month. Current stocks represent 32 days' supply.

Summary for Month

Production and shipments, all reporting refineries for four weeks ended Nov. 20. Change in stocks figured from Oct. 23.

	Gallons
Gasoline	
Production	110,027,764
Shipments	114,436,338
Net change in stocks	—4,408,574
Ratio sales to production	104.0%
Kerosene	
Production	22,745,742
Shipments	23,221,465
Net change in stocks	—475,723
Ratio sales to production	102.1%
Gas and Fuel Oils	
Production	140,115,722
Shipments	161,236,799
Net change in stocks	—21,121,077
Ratio sales to production	115.0%

Late Kerosene Advance

NEW YORK, Nov. 24.—On Nov. 24 Standard Oil Co. of New York advanced kerosene ½ cent throughout its territory, making tank wagon price generally 14.5 cents. Last previous change was a 1 cent advance on Nov. 5.

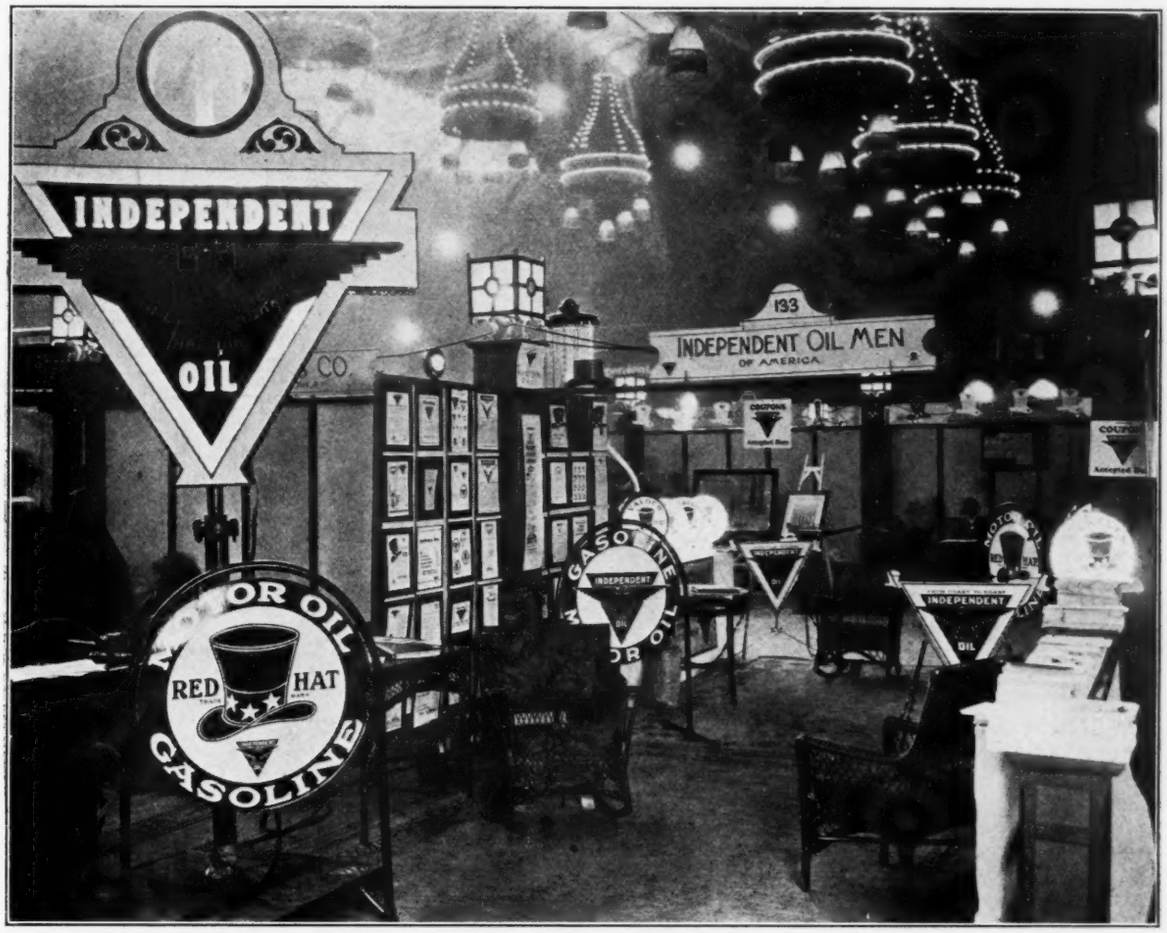
Montana to Have First Oil Meeting

GREAT FALLS, MONT., Nov. 24.—The first annual convention of oil men ever held in Montana, will be held at Great Falls, on Dec. 4 and 5 by the Rocky Mountain Oil & Gas Association, according to Walter F. Brittan, secretary.

Mid-Continent Refinery Operations Week Ended Nov. 20 (By Fast Wire)

	Kansas	%Change Previous Week	Oklahoma	%Change Previous Week	No. &Cent. Texas	%Change Previous Week	No. La.-Ark.	%Change Previous Week	Total	%Change Previous Week	Totals Week Ended Oct. 23
No. of Plants	23		46		41		14		124		124
Da. Still Cap.(bbl)..	98,200		165,900		144,300		51,700		460,100		460,100
Da. Av. Crude Run..	54,739		94,489		61,821		33,656		244,705		254,573
Da. Av. Other Oils..	12,641		11,104		13,959		9,477		47,181		60,420
Da.Av.Total to Stills	67,380	+ 0.3	105,593	— 3.2	75,780	+ 5.1	43,133	+ 4.4	291,886	+ 0.8	314,993
Gasoline—Gallons											
Stocks, Nov. 13.....	7,281,683		25,136,938		15,116,866		3,625,762		51,161,249		54,181,471
Prod. 11-13—11-20..	7,757,152	+ 4.8	11,475,891	+ 4.1	6,625,570	— 1.1	2,060,802	— 4.1	27,919,415	+ 2.4	29,893,178
Ship. 11-13—11-20..	7,508,785	— 6.7	11,927,417	+ 8.9	6,274,854	— 1.5	1,874,344	— 5.2	27,585,400	+ 0.9	28,170,811
Stocks, Nov. 20....	7,530,050	+ 3.4	24,685,412	— 1.8	15,467,582	+ 2.3	3,812,220	+ 5.1	51,495,264	+ 0.7	55,903,838
Ratio Sales to Prod.	96.8%		103.9%		94.7%		91.0%		98.8%		94.2%
KEROSENE—Gallons											
Stocks, Nov. 13....	5,801,992		3,626,505		5,101,888		237,264		14,767,649		15,485,356
Prod. 11-13—11-20..	1,962,828	+ 3.8	1,790,500	—23.0	1,575,756	— 7.0	356,447	+ 4.1	5,685,531	— 9.1	5,210,155
Ship. 11-13—11-20..	1,743,986	— 7.0	2,351,851	+20.7	1,898,109	+43.3	278,759	—34.2	6,272,705	+12.6	6,039,313
Stocks, Nov. 20....	6,020,834	+ 3.8	3,065,154	—15.5	4,779,535	— 6.3	314,952	+32.7	14,180,475	— 4.0	14,656,198
Ratio Sales to Prod.	88.9%		131.4%		120.5%		78.2%		110.3%		115.9%
GAS & FUEL OILS—Gallons											
Stocks, Nov. 13....20,791,072			102,687,857		46,275,731		22,450,350		192,205,010		209,288,795
Prod. 11-13—11-20..	7,717,803	— 0.1	9,863,973	— 6.1	9,469,060	+ 1.6	8,871,406	+ 4.5	35,922,242	— 0.3	38,582,181
Ship. 11-13—11-20..	9,679,726	+13.4	10,797,062	— 8.2	10,816,806	— 3.5	9,358,382	+ 1.3	40,651,976	— 0.2	208,596,353
Ratio Sales to Prod.	125.4%		109.5%		114.2%		105.5%		113.2%		10.8%

Advertising Campaign Now an Established Business



The display booth of the Independent Oil Men of America, the advertising division of the N. P. M. A. at the Louisville convention. Red Hats and Spread Eagles everywhere, showing how these two devices are being used by oil companies in their advertising.

THE advertising and merchandising campaign of the Independent Oil Men of America was presented in the light of a concrete established business proposition, with a definite advertising appropriation, executives to handle its work and so on at the afternoon session of the convention Nov. 18.

This picture of its development so far, as well as plans for the future, was drawn, not by President Nicholas or any of the executive staff of the N.P.M.A. but by the members of the association themselves, who got on their feet to tell of their business experiences in the use of the advertising insignia—the familiar spread eagle and the Red Hat. This discussion followed formal addresses on national advertising by C. C. Parlin, Philadelphia, of the Curtis Publishing Co.; E. P. Nesbit, Critchfield & Co., Chicago, which handles the I.O.M.A. advertising, and J. C. Eliff, also of the Curtis Publishing Co.

W. O. Hudson, Marine Oil Co., New Orleans, said that he had gone into the advertising campaign, although gasoline sales were only a small part of his business, but that he felt repaid because his friends in business in New Orleans and elsewhere, through his use of the insignia, recognized him as a unit in a nationwide proposition.

Jack Nourse, Nourse Oil Co., Kansas City, handling grease and lubricating oils exclusively, said he felt repaid for his share in the I.O.M.A. campaign, even though he could not cash in on gasoline business at all; and that the next step would be to handle lubricating oils under the same plan of uniformity and national emblem.

L. A. Miller, Aero Oil Products Co., Cheyenne, Wyo., said, after he started using the insignia, a man called up from Oregon to ask if he could buy a carload of Independent gasoline.

F. C. Bellis, of F. C. Bellis Co., Worcester, Mass., said the campaign was occasioning comment even in conservative New England and that he was going back to push it harder than ever.

C. S. Rosenthal, Apex Motor Fuel Co., Chicago, stated he considered it a big opportunity for a man in business in a small community to identify himself with a national movement—to be somebody in the business world.

Bitter experience taught H. E. Thompson, Thompson Lubricating Co., Tacoma, Wash., the necessity of a branded gasoline the Independent marketer could depend upon, he told the session. After developing a good gallonage for the product of one of the five principal refiners and distributors on the Pacific Coast under its own brand name, Mr. Thompson said he was forced to sit by and watch the company put in its own agent and forbid Thompson's company to sell gasoline under this brand name in the future. He said he was now making arrangements with a refinery building at Seattle and was going to market Red Hat gasoline.

"I started advertising a pet brand of my own in 1917, without any particular success stated F. E. Bergfors, Quincy Oil Co., Quincy Adams, Mass. "I took on the Red Hat brand and my experience was this. May and October of each year had previously been my best months for gallonage and after taking on Red Hat my gallonage increased in July and August over May and October and in those two months it increased 33⅓ per cent over the year before."

Resolve That Retail Gasoline Prices Should Reflect the Spot Market

TWO important resolutions concerning the price structure of the gasoline markets—tank car, tank wagon, and retail—were adopted at the conference of the National Petroleum Marketers' Association during the three-day session in Louisville.

One resolution unanimously adopted, expresses the belief of the association's members that the retail markets should be adjusted to the spot market, even though the spot market represents a less than cost basis, rather than maintain extra long margins and unjustified concessions to retail distributors which demoralize the entire market structure and create unsound competition.

In the other resolution, also unanimously adopted, belief is expressed that the distributor of petroleum products, with capital invested, should have the benefit of a differential under the price granted a casual buyer.

While President L. V. Nicholas said it was not hoped by the directors to repair the broken market structure, the resolutions would give the oil industry and the public something to think about and help put distributors in better grace with the consumers. Similar hope was expressed by numerous members.

The first resolution follows:

The Price Resolution

"Resolved that the National Petroleum Marketers Association in convention assembled believe that the surest method for building confidence within and without the oil industry and establishing public recognition of the very important and necessary function which we perform as distributors of petroleum products is the adoption of a system of pricing that will give reasonably prompt reflection in the price to the consumer of the fluctuations of the spot market, either up or down.

"It is the sense of this meeting that, while there unquestionably are times when the spot market price is less than actual cost of manufacture, it is better to adjust markets on this less than cost basis rather than to permit unfair exploitation of a great and legitimate industry by opportunists, both political and commercial.

"Be it further resolved that this Association express their confidence and faith in the general price structure of the industry for a period of many years past as having been entirely fair to the consuming public, when all just and legitimate costs were given due and proper consideration; and at the same time voice our opinion and belief that, as long as the spot market represents less than cost, the benefit—if any—of such unsound marketing conditions should be reflected directly, and as promptly as possible, in the price to the consuming public, rather than by extra long margins and unjustified concessions to retail distributors."

In discussing it Mr. Nicholas said:

"I think that the price structure, as we have known it, is shot all to pieces and shot permanently. I don't think you are ever going to see the time again when any station, regardless of its overhead or regardless of the service and the facilities, is going to maintain the same price that every other station maintains. I think that was one of the things that built up a good deal of the public intolerance of our price structure and made this reaction more severe than it otherwise would have been. I do believe this, however,—and it is one of the things we all want to discuss—real, honest-to-God, old-fashioned salesmanship is coming back into the oil business to stay permanently.

"I think you are all of you going to find that 2 cents on the gallon, or 3 cents on the gallon really means little or nothing to your average customer. He has though it did; you have thought it did. It has been an obsession, but it hasn't been actually a fact. I think every one of you are going to find that in checking your average consumption per customer.

"You know the figures and they are very complimentary or exaggerated, rather, as to the actual consumption per car. I think the figure runs something less than 500 gallons per car. On that basis, on a 3 cents a gallon differential, the car owner saves $1.25 per month, and for that amount, if a well located station with a product they are proud of and a service that is a service can not get that difference in price, there is something wrong with the way the man sells the service. There is nothing wrong with the individual or the customer.

No Room for Pricecutter

"Every one of us knows there has been a lot of fat success in the oil business. There are a lot of us who have succeeded in spite of ourselves and not because of anything he put into the business. I think there is room, and splendid room, for a great future for every man in the oil business who will think and think straight. I think we are all going to see that there is no room left for the oil man who takes a price structure that is named by somebody else and, in a weak, in a pitiful way, explains that the other fellow cut

N. P. N. Staff Photo

It's hard to know what to put first here. Walter McKee, or the Elk Refining Co., of Charleston, W. Va. With becoming modesty Mr. McKee endeavored to draw attention to his company rather than himself.

N. P. N. Staff Photo

Left to right, T. D. Davis, Fred G. Clark Co., Cleveland; S. F. Peacock, W. H. Barber Co., Chicago; R. A. Wotowitch, Henry L. Doherty & Co., New York; P. E. Cramer, Benolene Co., Toledo, Ohio, James A. Wainwright, Fred G. Clark Co., Cleveland.

his price. Nobody can cut your price but yourself, and there won't be anybody to defend your price but yourself.

"This national organization advocated, and advocated it with a good deal of noise and fervor, reductions in price at one time. Every thinking man who was in those discussions knows we didn't do it because of any emotional idea that the dear public were entitled to the reduction, nor from any emotional idea that it wasn't decent or honest to take the margin; but because we knew as intelligent business men the wide margins were building a type of competition that would be hell to get rid of later on. We knew that the type of margin that lined every roadside of the country with pumps and put a filling station on every corner would sooner or later bring the industry into suspicion and disrepute.

"Now whether the industry is built ahead of itself remains to be seen. I think every man in the room has got a very clear picture in his own mind of some other fellow that ought to be put out of business. I think every man in the room recognizes that some reaction of that sort is going to bring about the elimination of a number of oil men. I haven't got fingers and toes enough to count the ones that I think are going to be eliminated.

Must Adopt Present Conditions

"I think as intelligent oil men every one of us can stay in the picture if we will adjust ourselves to the changing conditions. I think the fatheads who won't adjust themselves are not entitled to sympathy and they are not entitled to any group effort or action to keep them in business.

"I think we have got to get down to real cases and we have got to face real facts. The spot market, so far as we are concerned, is the market we have got to consider. The question is asked here of you. 'What is a Spot Market?' I say a spot market is a market in which any governor, or any soap concern, or any machine concern, can buy gasoline and sell it to the public and make a profit. I think the spot market is the price at which these people can freely purchase the commodity that projects them into the competitive picture with us."

"It is a spot market but not a fair market," said A. C. Carpenter, Lesh Oil Co., Ottawa, Kans.

"What has the fair market to do with it?" Mr. Nicholas asked. "It is the spot market, isn't it? Isn't it a fact then if that is the spot market (and I will agree with you, our resolution takes the position that it may not be a fair market), we should go back to the subject of what makes a spot market. Now the spot market is the price at which a governor or somebody else can step in and buy gasoline. That is established. What makes it? Mr. Carpenter says it isn't a fair market. In our resolution we admit that quite frequently it isn't a fair market based on true costs. Then what puts it down to a point that represents less than fair cost? It must be that some one is throwing a surplus of manufactured gasoline on the open or spot market, don't you think?

Distress Stuff on Spot Market

"When you discuss what makes a spot market and what a spot market is, you are up against this conclusion, I think, and I don't think you can evade it: The spot market is very largely controlled by the surplus offerings of the companies who very largely sell through their own owned and controlled distributing stations. The spot market can create a distressed condition for your only sure and dependable source of supply, the non-competitive refiner. In other words, when you permit the offerings of somebody to be the distress offerings and accept the spot market offerings of your competitor with his own stations, you have contributed to the financial demoralization of the people on whom you must depend if your invested capital is going to be permanently protected.

"In my opinion, and I think in the opinion of most of you, it is fundamentally and essentially important that, as long as the spot market is made by the surplus offerings of people who run the bulk of their product through their own

N. P. N. Staff Photo

W. P. Dunbar, Bell Oil & Gas Co., Pittsburgh, and S. C. Collins, in charge of sales for the Marland Refining Co., Ponca City, Okla.

stations, that spot market should govern the price at which they sell and at which we sell through our stations. It is the only stabilizing influence that I know of. It is the only influence that I have heard discussed by any one as salutary and one that will really correct the situation.

"Charles M. Sutherland, secretary of the Nebraska Independent Oil Men's association, asked for the opinion of jobbers on whether they were willing to go on record as admitting there were two or three prices for gasoline in their communities. He said in Omaha there had been a "high-brow" attitude to ignore the cut prices but that they had ridden to destruction. He said it was now recognized that the low price was the actual market price.

R. C. Paul, Harrisburg Oil Supply Co., Harrisburg, Pa., said his company had overcome the cut price sellers by talking quality merchandise in wholesaling gasoline and oil and talking service in retailing them.

"We talk service, we sleep it, eat it and think it, and we actually illustrate it to our customers as they drive into out station," he said.

"We have found this: when our station salesmen are instructed to serve our customers in a way that is pleasing to them, in selling them ten gallons of gasoline, they get ten gallons, and in selling them a gallon of oil, they get a gallon of oil and not nine and one-half gallons of gasoline and three quarts of oil.

"We put the proposition across. We haven't had any trouble in holding our clientele, and we have done it purely through what I stated, salesmanship and service."

In response to a question from L. H. Martin, Greensboro, N. C., C. H. Armould, Armoulds Oil Co., Quincy, Ill., told how he had fought cut prices by putting out a cheaper brand of gasoline to meet competitive low prices. He

N. P. N. Staff Photo

This customer should never get away. T. J. McDowell, American Petroleum Products Co., Cleveland, left, and J. A. Stuber, of the same company, right, with W. W. Springborn, Fairmount Oil Co., Cleveland, in the center.

maintained his gallonage and make money, he said, because only about 12 to 15 per cent of the customers wanted the cheaper brand although the regular brand was 5 and 6 cents higher in some of the places where he markets.

Mr. Sutherland said such a thing couldn't be done in Nebraska because of inspection laws which made U. S. motor the lowest salable grade.

Mr. Armould also said he was offering contracts to a large consumer at a rate based on what he (Mr. Armould) has to pay for his gasoline. This customer, he explained, used about 8000 gallons of gasoline a month. Some of the large companies were trying to get the contract and were offering quantity discount agreements and modifications of the Q.D.A. He said he talked about four minutes to the local manager of the company on the cost plus plan and convinced him that it was fair. The manager was then transferred but in his new place he went to the oil man displaying the Spread Eagle emblem of the Independent Oil Men of America, put the Armould proposition up to him and signed a contract based on it. Mr. Armould said he had signed contracts in Quincy and Galesburg with this particular organization on the cost plus basis.

H. F. Stoke, Stoke Battery & Armature Works, Roanoke, Va., told of conditions in his territory where at times there has been a spread of only ½ cent between the delivered tank car price of gasoline and the tank wagon price and the Independents were helpless to raise the tank wagon price the 2 or 3 cents necessary to cover their costs and overhead.

The resolution concerning different prices to regular distributors of petroleum products and to casual buyers follows:

"Resolved, that we reaffirm the Association's declaration that the distributor of petroleum products whose invested capital is engaged in performing the necessary and essential function of distributing petroleum products should and must have a greater protection in price than that afforded by the present system which quotes the lowest going figure to the casual buyer so long as he is a tank car purchaser, and that it is the sense of this meeting that the best endeavors of the association should be directed and devoted to establishing a study of the situation with a view to bringing about proper and protective differential between the casual buyer of petroleum products in tank cars and the systematic and regular purchase of these products by established distributors who must depend upon the spread that exists between the price at which they buy and the price at which they sell for a sufficient profit to pay an adequate and commensurate return on their invested capital and for the service which they perform."

N. P. N. Staff Photo

J. Shlifer, Intercity Oil Co., Philadelphia.

N. P. N. Staff Photo

Left, A. Riekse, Colonial Oil Co., Grand Rapids, Mich., center W. K. Evans, Roxana Petroleum Corp., Chicago, and right Mr. Sargent, of the Louisville Herald-Post.

LOUISVILLE, Nov. 20.—The Canfield Oil Co., of Cleveland, repeated at this N. P. M. A. convention their very acceptable plan of publishing in handy booklet form a complete list of registrants at the convention, and making those available to all visitors desiring them. The company got out two editions of the list, the first containing the first day's registration, and, at the end of the second day, the complete list, arranged in alphabetical order with the man's company connection and home address.

The Canfield company also passed out ginger ale at its booth in the exhibit hall. Representing the company were Chas. McLean, vice president; H. M. Carruth, secretary; John Nelson, manager jobbers' sales; M. C. Dippel, purchasing agent, and Clyde Koch, manager local sales.

Augustine Davis, Jr., of the Davis Welding Co., Cincinnati, reported as absent at this N. P. M. A. convention, which was quite an innovation for him. Word got around, though the reason was a baby born to the Davis' a few days before the meeting started.

Suit on Trademarks Is Brought Up

"I DON'T believe the Standard Oil Cos. of Indiana and Nebraska are insincere in filing their protest," President Nicholas told the convention in commenting on the protest against the use of "Red Hat" as the name for the nationally advertised gasoline of the Independent Oil Men of America, and the use of a red high hat for the trade mark. "I believe they were mistaken."

Enlarged designs of both the Red Crown and Red Hat designs were displayed to the convention by Sam J. Hunt, in charge of the I. O. M. A. campaign.

"I believe they had an altogether false idea of what it was and what it looked like," Mr. Nicholas said. "We have submitted photographs of these two trade-marked brands to the most intelligent men we know of anywhere in America. We have submitted them to the biggest attorneys in America, and every one of them unanimously says he can't see any chance for confusion or misunderstanding of any kind or description. It has been submitted to the faculties of two great universities, with the same result.

"Now I am going to submit it to the most intelligent group of men in the world. If you can see any basis for the suggested objection of the Standard Oil Co. that the Red Crown customer is going to go into that Red Hat station thinking that it is Red Crown, then we are going to lose. Every one of you knows that we wouldn't go back of this campaign if we thought our advertising was going to take them into Red Crown, and they have got more of their signs up than we have of ours. Who would lose if there was any chance of losing?"

Fred C. Cramer, Denver Powerine Co., Denver, with Mrs. Cramer, made the Louisville N. P. M. A. convention their first stop in an eastern trip which will take them to Washington, New York and Cleveland. They expect to be gone about two weeks.

Vote Unanimously In Approval of Nicholas Administration

L. V. NICHOLAS, re-elected as president of the National Petroleum Marketers' Assoc., was given votes of confidence in every activity of the association the last fiscal year.

In the balloting for the presidency, only 15 scattered votes were cast for other members of the association and these really amounted to votes for the three vice-presidencies as the three persons receiving the greatest number of votes after the election of the president are the first, second and third vice-presidents.

S. S. Cramer, Wadhams Oil Co. Milwaukee; L. F. Kuehnle, Leader Oil Co., Dubuque, Iowa, and W. O. Hudson, Marine Oil Co., New Orleans, were the vice-presidents chosen in the order named.

Three new directors were elected and 10 directors whose three-year terms expired this year, were re-elected. The new directors are: F. B. Royster, Superior Oil Co., Biloxi, Miss.; M. H. Senter, Southeastern Oil Co., Chattanooga, Tenn., and Harry F. Brownell, Brownell Corp., Sioux Falls, S. D.

The directors re-elected are: R. J. Coughlin, Scobey, Mont., D. C. Cramer, Denver Powerine Co., Denver; Frank Francis, H. S. Goodell Co., Hancock, Mich.; L. F. Kuehnle, Leader Oil Co., Dubuque, Iowa; D. E. Little, Fort Worth, Texas; L. D. Pierce, Pennsylvania Petroleum Products Co., Providence, R. I.; W. E. Scott, Bartles-Scott Oil Co., Willmar, Minn.; J. H. Sherrill, Sherrill Oil Co., Pensacola, Fla.; F. A. Muench, Diamond Kerosene Co., Carlinville, Ill., and T. Wilbur Thornhill, Charleston Oil Co., Charleston, S. C.

The committee consisting of H. M. Wilson, International Oil Co., Minot, N. D., chairman; Mr. Hudson, and Col. E. H. Hilpp, Kentucky Consumers Oil Co., Louisville, assembled and counted the ballots which were cast by mail shortly before the convention. Balloting by mail enabled members to vote who were unable to attend the Louisville meeting.

The secretary of the association, Miss Eva Arnstein, is appointed by the president with the approval of the board of directors.

Bank Balance Doubled

S. S. Cramer, chairman of the finance committee, reported the association had doubled its bank balance the last year, even though its activities were greatly increased.

Answering complaints he said had been received, that he is "hard to see" when members are in Chicago were answered by Mr. Nicholas as follows:

"You want to have the same confidence in the management in the national association that you would if you were investing your good money in the securities of some railroad or any other type of capitalistic enterprise. You could not have that confidence if your executives and paid employees devoted their time to patting you on the back and kidding you and not devoting every bit of time and energy to conducting the affairs of the association in a business way.

"Whenever you get to Chicago and have something really on your mind, something you would like to talk about to me or any other member of the organization that applies to the straight organization business, just come in and figure we will be tickled to death to see you.

"I want to read a portion of a letter and a portion of my reply, and then, if you agree with me, I hope that somebody will give this a vote of confidence and approval to the way we are trying to conduct these affairs. Here is a man who says, in response to an effort on the part of the association to collect money that, he obligated himself to pay and then wouldn't pay, 'We have been receiving your letters and statements and have been giving them quite a little consideration in order not to arrive at too hasty a decision, and now we have reached the conclusion that we will withdraw from your association.' You see, it is not his association, it is our association. Get what follows:

"'There are several reasons which prompt us in doing this. First, as we understand it, you are the servants of the association, and as such you are endeavoring to tell us what we must do. We dislike very much to have any servant tell us what we must do.' Get it!

N. P. N. Staff Photo

Gus J. Steigerwald, of Wall & Steigerwald, Inc., Cleveland,—don't forget the Inc.—came out in front of the armory to get a breath of fresh air.

N. P. N. Staff Photo

How the Prince of Wales would have looked had he visited Louisville during the N. P. M. A. convention. Obligingly posed by P. E. "Pat" O'Connor, who looks after truck sales to the oil industry for the White Co., Cleveland.

"I want to get one point over to you that I wrote: 'We cannot conduct the affairs of the organization and pay for them with wooden money. The only income of the organization is from the members and the operations of the association. If you do not live up to your promise and agreement, you are just as much a debtor as any customer would be to you who bought gasoline or lubricating oil and then refused to pay the bill.

"As to the people in charge being your servants, you were never more mistaken in your life, unless on the same basis you would figure that if you owned one share of stock in the Northwestern Railroad you had a right to consider all the employees of that railroad from the president down as your servants and that your stock justified you in refusing to pay railroad fare whenever you traveled'."

A unanimous vote of confidence in Mr. Nicholas followed this.

LOUISVILLE, Nov. 19.—J. C. Malone, formerly with the Elliott-Jones Co., lubricant manufacturers, of San Antonio, Texas, recently became affiliated with the Indian Oil Products Co., Cleveland, Ohio, he announced to his friends at the convention.

Crude Production by Districts

Daily average gross crude output of United States, by fields, for week ending with dates given below, as compiled by American Petroleum Institute.

OKLAHOMA

	Nov. 21	Nov. 14
North Braman	1,900	1,850
South Braman	6,200	6,850
Blackwell	2,850	2,750
Hubbard	2,150	2,700
Thomas	16,600	17,750
Tonkawa	44,900	44,000
Garber	72,150	56,700
Burbank	48,400	48,650
Osage, outside Burbank	33,100	33,100
Watchorn	3,450	4,650
Cushing	22,900	22,850
Yale Jennings	11,250	10,800
Davenport	19,050	18,800
Bristow-Slick	31,100	31,100
North Okmulgee	18,150	18,200
Lyons-Deaner	4,500	4,550
Stroud	3,400	3,500
Cromwell	23,100	24,050
Papoose	13,450	13,650
Wewoka	8,900	8,950
Duncan district	7,950	8,050
Graham	9,200	9,100
Fox	4,400	4,150
Healdton	15,200	15,250
Hewitt	14,050	14,150
Others	61,050	60,050
Total Oklahoma	499,350	486,200
Increase		13,150

* * *

KANSAS

	Nov. 21	Nov. 14
Florence-Covert	1,950	2,000
Peabody-Elbing	4,950	4,950
Eldorado-Towanda	14,650	14,650
Augusta-Fox Bush	5,450	5,450
Rainbow Bend	8,000	9,350
Russell	6,650	5,050
Others	64,600	65,800
Total Kansas	106,050	107,250
Decrease		1,200

NORTH LOUISIANA

	Nov. 21	Nov. 14
Homer	6,050	6,100
Haynesville	12,000	12,000
Caddo, light	8,850	8,800
Caddo, heavy	2,550	2,600
De Soto, Red River	4,000	4,000
Elm Grove	650	600
Bellevue	2,650	2,650
Cotton Valley	8,450	9,550
Total N. Louisiana	45,200	46,300
Decrease		1,100

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ARKANSAS

	Nov. 21	Nov. 14
El Dorado	8,050	*8,000
Smackover, light	21,450	22,050
Smackover, heavy	165,750	159,350
Stephens	1,700	1,700
Nevada	1,400	1,350
Total Arkansas	198,350	*192,450
Increase		5,900

*Revised.

* * *

NORTH TEXAS

	Nov. 21	Nov. 14
Burkburnett	12,550	12,550
Electra	14,250	13,350
Iowa Park and K-M-A	4,150	4,100
Wilbarger	14,400	13,250
Panhandle	3,300	3,200
Petrolia	400	400
Archer County	32,400	31,600
Total N. Texas	81,450	78,450
Increase		3,000

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EAST CENTRAL TEXAS

	Nov. 21	Nov. 14
Mexia	15,150	15,250
Currie	1,200	1,200
Richland	2,400	2,700
Corsicana-Powell	36,800	37,900
Wortham	12,800	13,200
Total E. C. Texas	68,350	70,250
Decrease		1,900

* * *

WEST CENTRAL TEXAS

	Nov. 21	Nov. 14
Stephens county	13,950	13,950
Eastland county	6,850	6,900
Desdemona	2,250	2,250
Young county	7,950	7,500
Palo Pinto county	550	600
Callahan county	3,500	3,400
Shackelford county	2,500	2,500
Reagan county	30,800	30,300
Others	5,200	5,450
Total W. C. Texas	73,550	72,700
Increase		850

* * *

SOUTHWEST TEXAS

	Nov. 21	Nov. 14
Luling	22,100	21,800
Mirando	6,500	6,700
Somerset	2,150	2,150
Lytton Springs	8,600	9,300
Others	900	950
Total S'west Texas	40,250	40,900
Decrease		650

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CALIFORNIA

	Nov. 21	Nov. 14
Santa Fe Springs	53,000	53,000
Long Beach	106,000	106,000
Huntington Beach	47,000	45,000
Torrance	32,000	33,000
Dominguez	26,500	27,500
Rosecrans	25,500	24,500
Inglewood	69,500	74,500
Midway-Sunset	99,500	100,500
Others	180,000	180,000
Total California	639,000	644,500
Decrease		5,500

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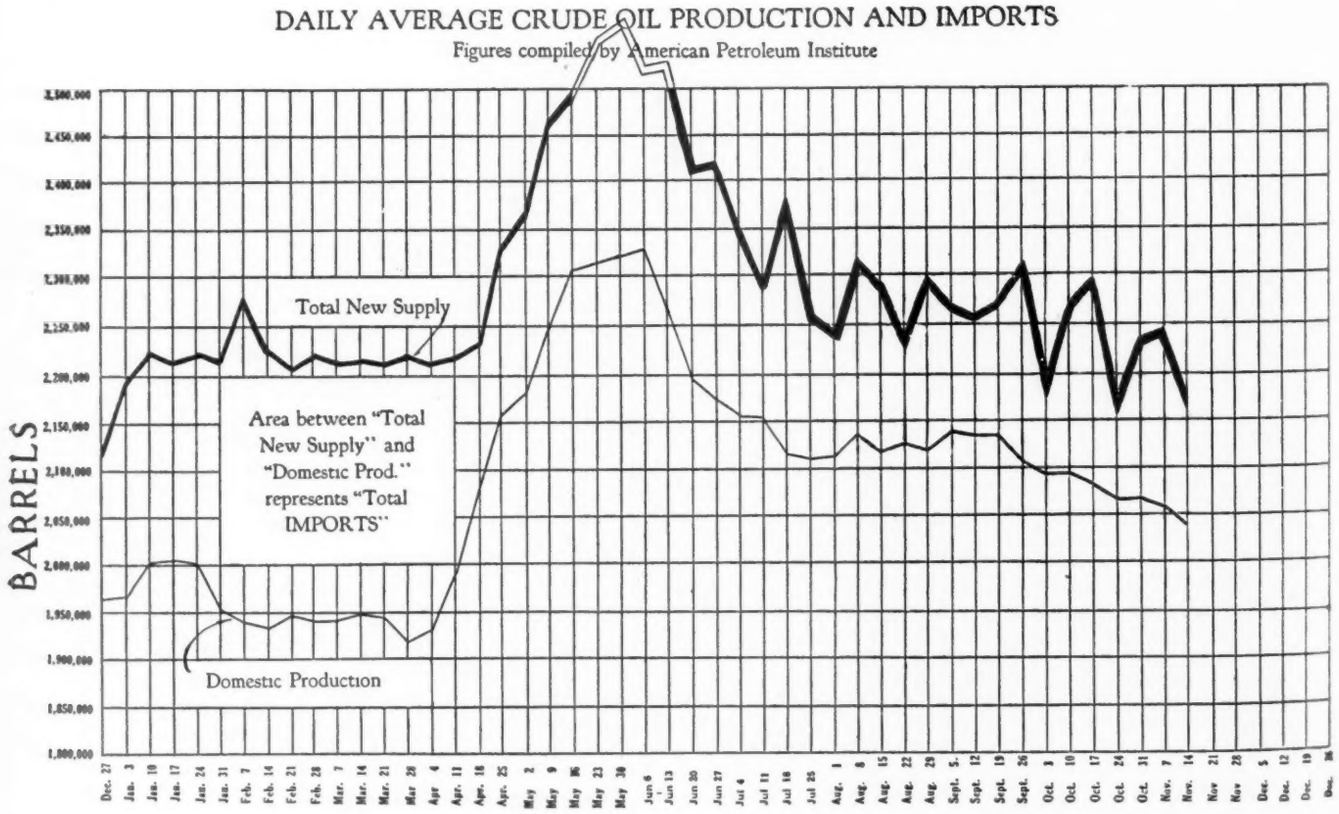
GULF COAST

	Nov. 21	Nov. 14
Goose Creek	10,600	11,250
Hull	13,950	12,200
Saratoga	1,100	1,200
Blue Ridge	450	450
Damon Mound	1,050	1,050
Batson	1,050	1,500
West Columbia	9,650	9,650

DAILY AVERAGE CRUDE OIL PRODUCTION AND IMPORTS

Figures compiled by American Petroleum Institute


BARRELS
Total New Supply
Area between "Total New Supply" and "Domestic Prod." represents "Total IMPORTS"
Domestic Production

This chart is based on official complete figures of A. P. I. and is a week later than the production estimates given in tabular form above.

Humble	4,600	4,600
Pierce Junction	450	450
Sour Lake	3,650	3,700
Spindletop	1,200	1,100
Orange county	13,050	15,300
Edgerly	500	500
Evangeline	900	900
Vinton	6,500	6,550
Lockport	4,250	4,050
South Liberty	9,950	9,200
Big Creek	1,000	1,050
Others	750	850
Total Gulf Coast	84,650	85,550
Decrease		900

* * *

ROCKY MOUNTAIN

WYOMING

	Nov. 21	Nov. 14
Salt Creek	64,250	63,950
Grass Creek	2,750	2,800
Elk Basin	750	750
Big Muddy	3,330	3,350
Lost Soldier	3,950	3,900
Rock River	3,150	2,950
Teapot Dome	1,700	1,450
Others	3,050	2,850
Total Wyoming	82,900	82,000
Increase		900

* * *

MONTANA

Cat Creek	3,300	3,250
Sunburst	12,650	12,400
Total Montana	15,950	15,650
Increase		300

* * *

COLORADO

Moffat (Craig)	2,800	3,650
Fort Collins	1,850	1,600
Florence	300	300
Others	250	300
Total Colorado	5,200	5,850
Decrease		650

* * *

NEW MEXICO

Artesia	4,700	5,000
Hogback	550	550
Rattlesnake	350	500
Total New Mexico	5,600	6,050
Decrease		450
Total Rocky Mountain	109,650	109,550
Increase		100

* * *

EASTERN

	Nov. 21	Nov. 14
(Including Ill., Ind., Ky., Ohio, W. Va., Pa., and N. Y.)	106,000	105,000
Increase		1,000

* * *

Production Summary

Production east of Rockies	1,412,850	*1,394,600
Increase		18,250
Total Production in U. S.	2,051,850	2,039,100
Increase		12,750

*Revised.

Crude Price Changes

Nov. 21.—Humble Oil & Refining Co. adopted in Texas fields the same schedule that was posted by the Prairie Oil & Gas Co. on Aug. 27, and which is still in effect, excepting that Humble posted $1.07 on oil below 28 degrees. Each degree in gravity above that is advanced 8 cents, making 28 to 28.9, $1.15, 29 to 29.9, $1.23, etc. Top grade of 44 gravity and above is $2.43, in accordance with Prairie's prices.

This new price schedule makes a reduction of from 2 to 20 cents on crude below 37 degrees, and an increase of from 2 to 12 cents on the lighter grades, from 39 degrees upward. The gravity schedule was unchanged, excepting for the addition of below 28 gravity.

Humble's prices in Texas apply on Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Curry and Moran crudes.

Nov. 23.—Joseph Seep Purchasing Agency advanced all grades of Pennsylvania crude 25 cents; Cabell, Corning and both Somerset grades, 15 cents; and Ragland, 10 cents. New prices are published in the crude price table at the back of this issue.

Magnolia Petroleum Co. on **Nov. 23** met Prairie's crude price schedule in Oklahoma, Kansas and north Texas fields where it purchases on a gravity basis. It posted $1.07 per barrel on crude below 28 gravity, which is an advance of 7 cents on that grade in all fields. Prairie's schedule was effective Aug. 27.

Previous to the change on Nov. 23, Magnolia had been maintaining two different price schedules, one applying in Oklahoma and Kansas fields, which was effective Sept. 1, and another in north Texas field, effective Aug. 18. Its prices in Oklahoma and Kansas, beginning with 31 to 31.9 gravity, conformed to Prairie's schedule, while its prices in north Texas beginning with the same gravity, conformed to the schedule posted by the Humble Oil & Refining Co.

Below 28 gravity in all fields on Magnolia's schedule has been $1, while 28 to 30.9 in Oklahoma and Kansas has been $1.31, and in north Texas, $1.35.

Now, all grades in all fields conform to Prairie's prices on Mid-Continent and north Texas crude. 28 to 28.9 is $1.15, 29 to 29.9, $1.23, etc., with an addition of 8 cents per barrel on each degree of gravity.

Note—The above change came in too late to correct the prices in the crude price table at the back of this issue.

On **Nov. 23** Magnolia advanced Corsicana heavy crude 5 cents to $1.05.

Nov. 23.—The Texas Co. adopted in north, north central and central Texas fields, the same gravity and price schedule as that maintained in Mid-Continent and north Texas fields by the Prairie Oil & Gas Co. since Aug. 27. The Texas Co. has been maintaining the same schedule in these fields as the Humble, since Aug. 21. The new prices posted on Nov. 23 by The Texas Co. denote a reduction of from 2 to 20 cents on the heavier oils below 37 degrees, and an advance of from 2 to 12 cents on lighter grades from 39 degrees upward. The new schedule begins with 28 to 28.9 at $1.15. Top grade of 44 and above is $2.43.

Discuss Engine Care and Corrosion At Gasoline Plants

TULSA, Nov. 23

THE law of supply and demand and the general situation which come in for discussion at most conventions are never mentioned at meetings of the operators of natural gasoline plants. How best to repair a cracked cylinder head, conduct a charcoal test or prevent accidents are the practical subjects which draw the interest of men who actually make the gasoline.

The second series of plant operators meetings held under the auspices of the Association of Natural Gasoline Manufacturers during the past week was no exception to this rule. At Drumright on Tuesday, Depew on Wednesday and Sapulpa on Thursday men from surrounding plants displayed intense interest in their everyday problems.

R. S. Stanfield, superintendent of the Tidal Refining Co's plant at Drumright, led a discussion of maintenance and repair problems at the Drumright meeting which dealt extensively with the care of engines and equipment subject to corrosion.

"The failure of connecting rod crank pins and bearings have completely wrecked expensive engines," Mr. Stanfield said. "This may result from broken bearing caps or broken bolts.

"In overhauling or repairing old engines which are not equipped with cast steel caps and heat treated nickel-chrome steel bolts it is desirable to install them. Although heat treated nickel-chrome steel bolts cost six times as much as cold rolled or mild steel it is economy to use the former. A wrecked engine or one with a hole knocked in its crank case resulting from a sheared off connecting rod bolt might cost hundreds or thousands of dollars while proper bolts and caps for a good sized plant probably would not cost in excess of $500.

"The tensile strength of heat treated nickel-chrome steel is about 150,000 pounds per square inch and its elastic limit is about 130,000 pounds per square inch. Compare this with cold rolled steel which has a tensile strength of about 83,000 pounds per square inch and an elastic limit of 59,000 pounds per square inch. This alloy possesses a tough hardness and a lack of brittleness which is so dangerous with cold rolled or mild steel.

"At one time we had a 4 cycle vertical 225 horse power gas engine which was giving a great deal of trouble because of the snapping of valve stems. Replacing former stems with nickel-chrome steel stopped the trouble. This material has great resistance to fatigue and shock.

"In all engines of more than two main crankshaft bearings it is very essential that accurate reference—commonly called tram points—be fixed in order that

the chief engineer may, at frequent intervals, measure from these points to the top of the crankshaft to determine whether there is perfect alignment. Some manufacturers equip their engines with these points. Others do not, and in these the pins must be established in the field by the engineer.

"In a vertical type engine, these points are generally established by drilling and tapping holes above all bearings and screwing in pointed pins. The pins should be filed until a fine steel wire shows that their tops are perfectly parallel with the machined surface of the main frame at the junction of the cylinders. If the shape of the frame is such that this method is not convenient, two pins may be set, one at each end. The tops of these should be notched to accommodate a fine steel wire from which one may measure down with a gauge and "feelers."

"If a shaft should run out of alignment for a very long time it would result in its being broken. A broken shaft in one of the large engines of a gasoline plant calls for a heavy repair bill and expensive shut-down time.

Valve Timing

"Improper valve timing will cause loss of power, misfiring and backfiring, a hot engine, burned valves or cracked heads. Timing should be set for the exhaust closing or inlet opening. Other points must be disregarded because the contour of the cam precludes the possibility of their alteration when the first point is set.

"A study of the blue print diagrams of four different engine builders shows that the exhaust closes at a minimum of four degrees and a maximum of 15 degrees past top center. When an engine is down for repair it is well to mark the setting on the timer gears with one pricked punched tooth on one gear meshing between two pricked punched teeth on the other.

"A cracked engine head may be repaired once but it is never wise to make a second weld. The salvaging of cracked engine heads and cylinders is accomplished by welding with acetylene. Brazing or electric welding will not make a safe job. The head should be preheated and a cast iron rod and flux should be used in welding followed by a careful annealing in sand. Worn cylinders are bored and bushed to standard size.

Accumulator Tanks

"Several gasoline plant disasters have resulted from the failure of nipples due to corrosion in accumulator tanks. For example at the Aztec Gasoline Co's plant near Glenpool on July 2, 1924, a nipple blew out of the high stage accumulator tank which held a pressure of 175 pounds per square inch. Vapor ignited from a rerun still 125 feet away destroying the plant and injuring two men.

"It is a wise policy to inspect and test or replace the nipples below the liquid level in all accumulator tanks at frequent intervals. At our plant we have been troubled with rapid corrosion of nipples so we have adopted the plan of wiring a brass tag on each nipple when it is changed. The tag shows the date the nipple was renewed.

"We process refinery vapors at the Tidal plant which contain a percentage of hydrogen sulphide. To treat these vapors so that we can produce a gasoline which will pass the corrosion test we have installed a simple gas scrubber at a cost of less than $500. Caustic soda of 18 Be. gravity is used in this scrubber at a cost of $6 per day to completely remove the last trace of H2S from 250,000 cubic feet of gas per day. We can only guess how much longer our equipment will last since this scrubber has been installed."

Mr. Stanfield told of recent tests made under his direction to show the resistance of various metals to sodium hypochloride. Accurately machined pieces of metal weighed to four points were prepared and immersed for a period of 15 days. At the end of that time two metals were found to have suffered no loss. One was Everdur and the other Dural. Others showed losses ranging from .065 per cent to a maximum of 49.389 per cent by weight.

In the discussion of corrosion which followed one plant operator told of the difficulty a manufacturer had in Texas to keep his orifice plates as meters accurate. After a week or so of service it was found that the orifice was always greatly enlarged. A test of the gas showed it to contain nitric acid so the manufacturer had his next plates gold plated and has had no trouble since that time.

Safety is Featured

Safety in the gasoline plant is being made a feature of all of the operators meetings this year. As in the case of the first series in the northwestern fields two weeks ago Ray E. Miller, director of the Petroleum Safety Council, addressed the men on safe practices. The first aid team of the Tidal Refining Co. demonstrated methods of giving artificial respiration, bandaging broken bones to splints for transportation to the hospital and the stoppage of bleeding from cuts.

A. F. Maxon of the Sun Oil Co., repeated his address on temperature and liquid control which he gave at the former series of meetings. As before he stressed the fact that recording and control apparatus is put on a plant for a purpose and that the operator who can make a plant "do its stuff" is the one who studies results of operating under various conditions and co-ordinates all parts of the plant to produce a maximum quantity of gasoline. He gave an example of one plant where production was increased 7½ per cent as a result of a few minutes work in repairing spray nozzles in the coil pit.

Reasons of employers for demanding certain records from field men were outlined by C. L. Swim of the Skelly Oil Co. in the first address of the evening meeting at Drumright. He spoke on co-operation between field and office.

W. R. Lentz of the Chestnut and Smith Corp. gave a complete description of the charcoal testing apparatus and the method of making tests. He recommended the test as being the most accurate on lean gas, particularly where a small pressure is available. It was pointed out that one manufacturer has now designed a portable electric vacuum pump to run on a Dodge storage battery which will pull a 28-inch vacuum and permit charcoal tests on properties where there is no gas pressure. There was an extensive discussion of the value of mercury distillation as compared with glycerine.

P. B. Skinner of the Skinner Belting Co., warned the operators of the effects of oil on either rubber or leather belts at gasoline plants. A rubber belt immersed in engine oil for 24 hours will depreciate 26 per cent and a leather belt 15 per cent, he said. Straight lacing of belts was stressed as being highly necessary if the belts are to last. Waving of a belt and early breakage is the result of poor lacing in many cases. In buying belts Mr. Skinner suggested that the length of the staple of cotton be asked rather than the weight of the duck used since the length of staple helps determine the tensile strength.

A. J. Schlosser, general superintendent of the gasoline department of the Barnsdall Oil Corp., acted as chairman of the Drumright and Sapulpa meetings. A. V. Bourque, secretary of the association, acted as chairman at Depew. The next meeting will be held at Okmulgee on the evening of Dec. 4.

Lemon G. Neely Dies At St. Mary's

ST. MARY'S, O., Nov. 23.—Lemon G. Neely, pioneer oil producer, died at his home here this morning. He was 62 years old. Funeral arrangements were made for Wednesday afternoon, at St. Mary's.

Mr. Neely's illness was of short duration. He acted as host in late September to a number of friends on a fishing expedition to Lake Nipissing, Ontario, and upon his return went to Tulsa on business connected with the Iron Mountain Oil Co., of which he was one of the organizers and the president at the time of his death.

Inquiry Into Elk Hills Title Goes Ahead

WASHINGTON, Nov. 24.—The Standard Oil Co. of California has lost in its effort to obtain temporary restraining order forbidding the Secretary of the Interior to hold a hearing on title to Sec. 36 held by it in the Elk Hills district of California, adjoining the naval reserve. The company claims the section under title from California.

Chief Justice McCoy, of the supreme court of the District of Columbia, refused the restraining order because he was of the opinion that the state did not obtain title to the land in question prior to the time the department initiated the inquiry to ascertain whether the section was or was not of mineral character.

Garber May Hit Peak of 100,000 Bbls. If Wells Hold Up, But Will They?

By A. F. Hinton
N. P. N. Staff Writer

TULSA, Nov. 21

THE Garber field maintained its position in the spotlight of attention during the past week, and, as far as the Mid-Continent field is concerned, is the one outstanding important factor in the crude situation of the present and the immediate future. If it were not for Garber, indeed, the outlook for the Mid-Continent would be more cheerful from a producer's standpoint than it has been for several years past, as no other fields now producing are causing any apprehension as to their effect on prices or markets over the next few months.

With Garber booming along at a great rate, however, and with nothing yet to indicate how far northward it will go nor what its peak production will be, there is no denying that it constitutes a menace to the market and to the peace of mind of the oil man. Just as the "triple threat" man on a football team keeps his opponents guessing as to what he is going to do with the ball when he gets it, so Garber has the industry wondering as to what its final effect will be. It is a triple threat itself, for it may delay an advance in the price of crude, it may prevent it altogether, and it may, conceivably, bring about a reduction, although the last is admittedly a remote contingency.

Garber is now producing about 79,000 barrels daily, from all sands of which about 71,500 barrels are coming from the deep horizons generally called the Wilcox. Another well as big as the Sinclair No. 19 Hartley, which has been flowing better than 15,000 barrels daily every day of the past week, would put the field over the 100,000 barrel figure which has often been predicted as its peak—and there is no reason now to assume that there will not be another such a well. In fact, another well making 8000 barrels already has been added to the list since the Hartley well came in.

In many cases among the older deep wells, the appearance of water was immediately followed by a precipitate decline in oil production, which usually continued until the well had gone dead entirely, and it had been generally believed that the big wells of the Roxana Petroleum Corp. and others would be similarly affected when water began to show up in them. The fact has been, however, that, although water has shown up in some of the big wells, it has been handled in such a manner that it has not yet seriously affected their production. Predictions have been made that the big wells would be going off rapidly as new wells came in, so that the effect of the new wells' flush output would be diluted, but this has not been borne out by events of the past two weeks. New wells have been drilled in with large initial flow and they have found the older wells still "hitting on all six" in spite of water encroachments.

The effect of this has been a steady increase in the field's production and a rapid approach to the point at which its output will constitute a real menace to the crude situation. There seems no reason to doubt now that it will reach 100,000 barrels a day during the coming month, and reach it easily, in which event only a real dyed-in-the-wool optimist would be willing to predict that Oklahoma crude prices would increase along about the first of the new year.

Prairie Extends Field

One of the interesting features of the week's developments at Garber was the showing had by the Prairie Oil & Gas Co. in its No. 6 Wishard, in the SEc of 12-22-4W, a half-mile north and a location west of the Sinclair No. 19 Hartley. The Prairie well had what is believed to be the Layton sand at 3594 feet, and made one 30-minute flow after which the hole is thought to have bridged. It now has 2000 feet of oil standing in the hole. There are about 400 feet of open hole and the company is now reaming out to lower the 5-inch casing to top of sand before driling in. If this is the Layton sand, it is about 25 or 30 feet high on structure, as compared with the Hartley well, and is very important development, making the north end of the field look even better than it does now.

The Prairie well is an old well drilled deeper, which accounts for the fact that it is down to the 5-inch casing at its depth. It was started out in the general direction of the Wilcox sand with that horizon as its ultimate objective if it was possible to reach it, but with a determination to test out all other showings on the way down. If it shows good at its present depth it will undoubtedly be completed where it is and a deep test will be drilled when and if the deep sand production gets that far north. The Wishard lease is an 80-acres which has been productive in the upper sands ever since Garber first came in back in 1916, and its north end marks just about the edge of the oil field. Whether or not the deep sand will extend that far is one of the burning questions of the day.

The Hartley well of the Sinclair Oil & Gas Co. has produced 88,450 barrels up to this morning since it started off last Sunday, an average of almost exactly 16,000 barrels daily. Its production has run around 15,600 barrels every day this week, varying very little, losing some one day and gaining it back the next. At $2.40 a barrel, this remarkable well has earned $211,200 in less than a week and is on velvet in spite of the high cost of drilling these deep wells. For the past 24 hours it made 15,477 barrels, or two barrels more than the day before.

The Roxana Petroleum Corp. is still drilling in new wells on its prolific

Drilling Operations in Oklahoma, Kansas and N. Texas

	Nov. 21 Week Ending					Nov. 14 Week Ending				
	Loc.	Rigs	Drg.	S.D.	Total	Loc.	Rigs	Drg.	S.D.	Total
OKLAHOMA										
Burbank	1	4	8	1	14	2	6	5	1	14
Other Osage	3	11	38	10	62	3	9	35	13	60
Bristow-Cushing	23	37	147	24	231	22	36	141	27	226
North Oklahoma	10	33	139	107	289	9	28	140	114	291
South Oklahoma	10	22	146	63	241	12	18	141	64	235
Muskogee	..	12	50	13	75	..	12	50	11	73
Okmulgee-Bristow	2	48	132	37	219	3	52	120	42	217
Tonkawa	..	2	11	2	15	1	1	10	2	14
Wewoka-Cromwell	13	10	88	18	131	8	7	91	21	127
Total Oklahoma	64	179	759	275	1277	60	169	733	295	1257
KANSAS	58	75	215	141	489	52	73	211	130	468
NORTH TEXAS										
Eastland County	..	3	58	3	64	...	3	54	3	60
Stephens County	..	18	34	14	66	...	17	32	14	63
Texas Panhandle	..	19	28	14	61	...	19	28	14	61
Mexia District	..	4	12	8	24	...	4	12	8	24
E. Texas Wildcats	..	7	6	23	36	...	7	6	23	36
W. Texas Wildcats	..	21	137	71	229	...	21	152	62	235
Wichita Falls	..	52	141	29	222	...	55	136	36	227
Total N. Texas	..	124	416	162	702	...	126	420	160	706
GRAND TOTAL	122	378	1390	578	2468	112	370	1364	585	2431

Completions in Oklahoma and Kansas, Week Ended Nov. 21

OKLAHOMA

Carter County

Company	Well No.	Location	Depth	Initial Production
Amerada	20	NWc NW NE SE 20-5-1E	1325–1375	150
Amerada	20	C SW NE SE 20-5-1E	1360–1394	35
Magnolia	1	C NE SE NE 32-1-3W	T.D.3460	Dry
Coline	1	C SE SW SE 8-3-2W	T.D.3715	Dry

Creek County

Company	Well No.	Location	Depth	Initial Production
Lassen	3	SWc NW 13-19-8	1564–1579	45
Shaffer	2	CNL NW NE 17-17-11	T.S.2513	240
Tidal	1	NEc SW NW 21-16-8	T.D.3326	Dry

Garfield County—Garber

Company	Well No.	Location	Depth	Initial Production
Sinclair	15	C NE SE 25-22-4W	2111–2118	45
Sinclair	23	C SE NE NW 18-22-3W	2093–2113	34
Sinclair	21	C NE NW NW 19-22-3	4284–4334	2423
Imo	4	CNL SW 31-22-3W	T.D.2600	Dry

Garvin County

Company	Well No.	Location	Depth	Initial Production
Magnolia	1	C SE SE NE 19-3-4W	T.D.3810	Dry

Grant County

Company	Well No.	Location	Depth	Initial Production
Blackwell	1	NWc 23-27-3W	4073–4079 OWD	22½M

Hughes County

Company	Well No.	Location	Depth	Initial Production
Tidal Osage	2	C NE NE NW 9-9-11E	3054–3074	30
Slick	1	C NE NW NE 10-9-9E	T.D.3350	Dry
Slick	2	C NW NE NE 10-9-9	T.D.3573	Dry
Tidal Osage	4	C NE NW NW 9-9-11	T.D.3353	Dry

Kay County—Blackwell

Company	Well No.	Location	Depth	Initial Production
Black Gold	1	SWc NW NW NW 10-27-1W	3428–3433	20M
Anolu	2	C NE NW 16-27-1	3430–3440	46M
Miller et al	1	SWc NW NW 8-27-1	T.D.3200	Dry

Kay County—Hubbard

Company	Well No.	Location	Depth	Initial Production
Prairie	7	SW SE 1-26-2W	2938–2980	30

Kay County—Thomas

Company	Well No.	Location	Depth	Initial Production
Marland	3	NEc SW SW 15-25-2W	3952–4016	3140

Lincoln—Davenport

Company	Well No.	Location	Depth	Initial Production
Twin State	6	SEc NE NW 2-14-5E	3280–3374	675

McIntosh County

Company	Well No.	Location	Depth	Initial Production
Weible	1	NEc SE NW 2-11-17E	T.D. 843	Dry

Okfuskee County

Company	Well No.	Location	Depth	Initial Production
Josey	4	CSL NW NW 33-12-11	2915–2918 OWD	517
Eagle Picher	2	CSL NE SW 25-11-9	T.D.3203	Dry
Kingwood	1	C NE NE NW 15-10-9	T.D.3410	Dry
Umburn	3	C SW SE NW 11-10-11	T.D.2685	Dry

Okmulgee County

Company	Well No.	Location	Depth	Initial Production
Sheldon-Houston	1	NWc SW SW 20-16-12	2563–2585	25
Olean	8	CEL SW NW 14-15-12	2588–2600	165
Marcy et al	6	CNL SE NW 8-13-12	2100–2132	35
Continental	4	NWc 20-12-12	1930–1960 OWD	25
Magnolia	9	SWc NE NW 1-11-13	2833–2842	275
Roxana	8	SEc NW 15-13-14E	2456–2476	100
Devonian	4	CSL SE SW 7-15-13	2693–2698	300

Osage County

Company	Well No.	Location	Depth	Initial Production
Osage	46	CWL NW 35-29-11E	966–1004	50
Owen Osage	352	NWc SE 8-27-11	700– 720	8½M
Wrightsman et al	5	SEc NW NE SW 19-25-8E	2707–2737	351
Boorstein	1	SEc NW 30-24-8E	2816–2886	45
Kay County	6	SWc SE SW NW 26-24-9E	2087–2120 OWD	15
Winona	17	CWL SE 28-24-10	1377–1395	40
Peters	6	SE NW SE SE 12-23-8E	2058–2144	80
O'Reilly	1	SWc 33-20-10E	2600–2625	20
S. S. Home	3	SEc NW SW NW 29-20-11	2317–2335 OWD	50,3M

Osage County—Burbank

Company	Well No.	Location	Depth	Initial Production
Lewis	14	C NE SE NE 21-26-6E	2917–2941	313

Pawnee County

Company	Well No.	Location	Depth	Initial Production
Selby-Gypsy	2	CEL SE SE 35-21-7	2762–2865 OWD	120
Magnolia	1	C SW SW SW 27-23-3E	T.D.3889	Dry
Stein	1	NWc 22-20-7E	T.D.2912 OWD	Dry

Payne County

Company	Well No.	Location	Depth	Initial Production
Mulberry	1	C NW NE SE 23-18-3E	4301–4308	1050
Mulberry	2	SWc NE SE 23-18-3E	3785–3797	370

Pontotoc County

Company	Well No.	Location	Depth	Initial Production
Tex-Pac. C. & O.	1	SWc NE SE 31-4-6E	T.D.2882	Dry

Seminole County

Company	Well No.	Location	Depth	Initial Production
Magnolia	1	C SE SE SE 30-8-9E	T.D.3337 OWD	Dry

Stephens County

Company	Well No.	Location	Depth	Initial Production
Carter	9	NE SE NE 32-1-8W	2258–2277 OWD	40

Tulsa County

Company	Well No.	Location	Depth	Initial Production
Wilson	7	SEc SW NW 29-19-12E	2103–2157	40
Brooks	3	NEc SW SW 29-19-12	2126–2134 OWD	20
Burke et al	2	CSL SW NE 16-16-14	1726–1745	40
Steele et al	1	NEc SE SE NW 4-19-10	T.D.2547	Dry
S. S. Home	1	SEc SW SW 30-19-11	T.D.2425	Dry
Green et al	3	CSL SE SW 24-18-13	T.D.2222	Dry
May Bros	1	SWc NW 14-18-14	T.D.1360	Dry

Wagoner County

Company	Well No.	Location	Depth	Initial Production
Larsarskey	3	CWL SW NE 25-17-16	1306–1323	25
Mitchel	2	C NE SW 35-17-16	1404–1423	4M
East. Okla	3	SWc NE NW SW 21-18-16	701– 726	10

KANSAS

Butler County

Company	Well No.	Location	Depth	Initial Production
Rogers	9	SEc SW NW 29-26-8E	2685–2755	250
Mid-Kans	1	SEc SE NE 22-27-7	2689–2705	20

Cowley County

Company	Well No.	Location	Depth	Initial Production
Slick	2	SEc SW NE 19-32-3	3410–3418	50
Slick	1	NWc SW 20-32-3	3502–3518	50
Shawver-Sutter	1	SWc SE 10-30-4E	T.D.2855	Dry
Hull	2	SWc NW 19-32-5	T.D.1795	Dry

Elk County

Company	Well No.	Location	Depth	Initial Production
Pure	7	CWL W½ SE 14-31-10	1360–1369	100
Southwestern	4	SEc NE SE SW 14-31-10	1352–1368	50
Theta	1	NWc 26-31-10	1348–1360	25
Theta	1	NEc 27-31-10	1338–1350	25

Greenwood County

Company	Well No.	Location	Depth	Initial Production
Phillips	2	NEc SE 30-22-10	2435–2454	140
Phillips-Skelly	3	NWc SE 20-23-9	2531–2557	25
Mid-Kans	2	NWc SE NE 31-23-10	2279–2348	75
Noble	2	SEc SW 1-22-11	T.D.1828	Dry
White Eagle	2	SWc NW 7-22-11	T.D.2103	Dry
Abel et al	1	NEc 3-25-10	T.D.2176	Dry
Smith et al	1	SEc NW 14-26-11E	T.D.1896	Dry

Russell County

Company	Well No.	Location	Depth	Initial Production
Cassoday	1	SEc NW NW 5-12-15W	2804–2808	50
Mid West	4	NEc NW NW 8-12-15W	2909–2912	234

Schroeder farm, in the SW of 18-22-3W, and at last reports had production of 37,565 barrels from eight wells, thereby still holding its field leadership. This company's No. 9-W Schroeder is the latest well to get the deep pay and is producing although still not completed. It got the top of the Oswego lime at 4060 feet and was drilling at 4085 feet at last reports. It had made 320 barrels up to this morning. This well is in the SWc SE SW of 18, and is the third location along the south line of the lease.

More Roxana Wells

The Roxana's No. 6-W Schroeder, an inside location in the NEc SW SW of 18, made 8386 barrels the first 24 hours at total depth of 4298 feet after having topped the sand at 4255 feet. This big well made 905 barrels in the first 12 hours after it had been drilled to 4276 feet and increased its production rapidly as drilling continued from that point. The same company's No. 4-W Schroeder, in the SWc NW SW of 18, the last of the four wells along the west line of the lease, was deepened to 4294 feet during the week and produced 3284 barrels in the ensuing 24 hours. Its previous production had been 1860 barrels from depth of 4289 feet.

Roxana No. 8-W Schroeder, in the NEc NW SW of 18, a location east of No. 5-W, which is a 7000-barrel well, got the top of the lime at 4303 feet, had gas at 4304 feet, first oil at 4317 feet and at total depth of 4340 feet was flowing 150 barrels an hour. It has not yet been completed. The 31 deep sand wells produced 71,475 barrels during the past 24 hours, while the field as a whole put out 78,895 barrels. The Roxana's share of the deep production is 37,565 barrels. Sinclair is next with 24,531 barrels, Marland-Mid-Continent have 9039 barrels, Carter Oil Co. has 290 barrels, and Healdton Oil & Gas Co. is last with 48 barrels.

The Marland-Mid-Continent No. 45 School, in the NEc SE SE of 13-22-4W, which was reported last week as alternately dying and coming to life again, is animate at the moment, although only a shadow of its former self. It produced 1271 barrels of oil and 400 barrels of water during the past 24 hours, as compared with about 7500 barrels on the last day before the water started coming in.

New Wells At Seay

In the Seay field, Jefferson county, where the Gypsy Oil Co. startled everybody a few weeks ago by drilling in a 4000-barrel well, the Prairie Oil & Gas Co. has what appears to be a fairly good well in its No. 4 Seay, a diagonal southeast offset to the Gypsy well, and an old well drilled deeper. This well started off making 450 barrels the first 12 hours in sand from 1530 to 1543 and started making some water, which is now being plugged off with lead wool. It is probably good for about 500 barrels daily. Another well in this field during the week was the Humble Oil & Refining Co.—Hambro Oil Co. No. 4 Seay (all these wells are on Seay property), in the CNL NE SE of 33-6S-5W. This well produced 265 barrels the first 24 hours in the deep sand from 1491 to 1494 feet and was drilling ahead at last reports.

Wells Completed

In Oklahoma, during the week just closed, 63 wells were completed, of which 37 were oil wells, five were gas

Completions in North and Central Texas, Week Ended Nov. 21

Company	Well Farm	Location-Sur.	Depth	Initial Prod.
Anderson County				
Williams	1-Parker		T.D.2120	Dry
Rosser et al	1-Brooks		T.D.4170	Dry
Palestine	1-Monning		T.D.1510	Dry
Archer County				
Boller-Wolf	7-Wilmot	S. P.	1382–1406	40
Caldwell	1-Hutchinson	ATNC	1367–1373	120
Major	1-Turberville	Jefferson	1056–1062	50
Magnolia	11-Goldsmith	SAR	1334–1344	25
Prairie et al	30-Richardson	SAR	1331–1341	26
Texas	3-Boren	Newman	1066–1093	65
Muse et al	1-Jackson	Aldridge	T.D.1627	Dry
Superior	3-Kinder	Clark	T.D.1325	Dry
Hobbs et al	4-Lane	Meade Past.	T.D.1495	Dry
W. Phillips	18-Wolfe	BBB&C	T.D.1500	Dry
Coombs-Rogers	1-Spain	Meade	T.D.1500	Dry
Evangeline	1-Neil	Wayeischouski	T.D.1231	Dry
Bridewell et al	5-Boren	Newman	T.D.1108	Dry
Baylor County				
Richardson	1-Stephens	TEL 3129	T.D.1608	Dry
Bowie County				
Dalby Springs	1-Parkey	Daley	T.D.3500	Dry
Delaney	1-Rochelle	McKinney	T.D.3160	Dry
Brown County				
Cohen et al	3-Stone	Miller	1281–1303	200
Phillips-Milam	1-Graham	Brown	T.D.1000	Dry
Decker et al	1-Henry	Geiger	T.D.1347	Dry
Callahan County				
Jones et al	1-Haley	Anderson	T.D.1469	Dry
Cranfill-Reynolds	1-Cent.	Anderson	1417–1422	50
Herbert et al	1-Cent.	Anderson	1432–1439	67
Jones et al	1-Cent.	Anderson	1440–1448	200
Lewis et al	1-Cent.	Anderson	1428–1438	45
Warren et al	1-Cent.	Anderson	1448–1456	250
Cass County				
Caldwell et al	1-Evans	Bird	T.D.1620	Dry
Clay County				
D'Yarnatt et al	1-Scott	Wyatt	1202–1214	6
Nebr-Tex	1-Meyers	Thompson	T.D.3405	5
Crockett County				
Humble	1-Harris	Washington Co. RR	T.D.3144	Dry
Eastland County				
States	4-Henderson	H&TC	3200–3240	60
Dorothy	4-Kincaid	H&TC	1677–1701	40
Corzelius et al	1-Dulin	H&TC 42	3426–3466	50
Grayson County				
Texas	1-Cannon	SA&MG	T.D.3431	Dry
Hill County				
Pure	1-Barton	Tyler	T.D.1727	Dry
Kaufman County				
Atlantic	1-Cartwright	Caldwell	T.D.3002	Dry
Mitchell County				
Eastland	1-Elder	TP	2850–3000	125
Atlantic	1-Adams	TP	2915–3018	290
Montague County				
Humphreys Body	2-Jones	Donahoe	840– 900	½M
Navarro County				
Humble	32-Davis	Barry	T.D.1630	4
Sun	2-Swink	Boren	T.D.2976	3½M
Humble	11-Pugh	Smith	T.D.1645	Dry
Raines County				
Cree-Coulter	1-Peeples	Tibbles	T.D.2260	Dry
Red River County				
Brewer Hines	1-Dinviddie	Anderson	T.D.1841	Dry
Clarksville	1-Simmons	Neil	T.D.2100	Dry
Gibson	1-Arnold	Edwards	T.D.2760	Dry
Johnson	1-Antone	Gamble	T.D.3740	Dry
O'Bannon	1-Wortham	Harty	T.D.3500	Dry
Riggins	1-Garland	Hogley	T.D.1860	Dry
Shackleford County				
Lion Tamers	2-Black	TEL 395	T.D.331	Dry
Milham	2-Clausell	TEL 587	T.D.989	Dry
Throckmorton County				
Associated	1-Putman	Larn 1310	T.D.1260	Dry
Titus County				
Magnolia	1-Antone	Delgado	T.D.3560	Dry
Van Zandt County				
Mexia	1-Jones	Hold	T.D.3350	Dry
Terrell	1-Dunbar	Van Sickle	T.D.3500	Dry
Wilbarger County				
Oxford	1-Bowers	J&TC 100	T.D.2474	Dry
Gulf	1-Waggoner	H&TC	T.D.2504	Dry
Gulf	2-Waggoner	H&TC	T.D.325	Dry
Wilbert	1-Waggoner	H&TC 23	T.D.2260	Dry
Wilbert	1-Waggoner	H&TC 9	T.D.1370	Dry
Quaker	1-Waggoner	H&TC 26	T.D.500	Dry
Landreth	1-Waggoner	H&TC 47	2356–2382	92
Landreth	2-Waggoner	H&TC 46	1888–1899	250
Young County				
Gulf	1-Campbell	TEL 231	991– 995	5
Tex-Unity	1-Sloan	Tel 232	1003–1007	60
Roeser-Pendleton	3-Cathey	TEL 68	1190–1196	148
Burns-Moore	1-Logan	TEL 69	1197-T.D.	Dry
Clopton et al	1-Doyle	TEL 184	T.D.1201	Dry

wells, and 21 were dry holes. This compares with last week's total of 84 completions, divided 42 oil wells, five gas wells, and 37 dry holes.

The 37 oil wells included in this week's report had a total initial production of 10,968 barrels, giving them an average initial production of 296.4 barrels per well. Last week, 42 wells brought in 13,641 barrels of new production, with a per-well average of 324.8 barrels.

Completions reported from Kansas this week totaled 19, of which 13 were oil wells and six were dry holes. Last week, there were 26 Kansas completions, divided 16 oil wells, two gas wells, and eight dry holes. The 13 oil wells in this week's report had total initial of 1094 barrels, giving them the low average of 84.1 barrels per well. Last week, 16 wells brought in 2145 barrels of new production, with a per-well average of 134.3 barrels.

CALEDONIA, N. Y.—Starting Oct. 1, a numbered ticket will be given away to each purchaser of five gallons of gasoline at any McKay gasoline pumps, operated by George McKay, who is doing a wholesale and retail business here. The lucky number wins a new Ford touring car which will be given away Jan. 1.

GREENSBURG, PA.—Lincoln Oil Co. opened a new service station at Jeannette, Pa., equipped with 4,000 gallon storage. The station filled 760 cars the first day, and gave one gallon of Sinclair motor oil free with each five gallon purchase of Sinclair gasoline which the station is handling.

MONTELLO, MASS.—Colonial Filling Stations, Inc., just opened its service station No. 82 at Taunton, Mass. Thomas F. Keliher and Paul Gibbons have been appointed agent and assistant respectively, according to Lloyd S. Humphreys, agent at station No. 52, at Montello.

Gulf Coastal Water Shipments. October Compared With September

(All figures in barrels of 42 gallons)

Company—Port	Coastwise Refined September	Coastwise Refined October	Export Refined September	Export Refined October
Standard of Louisiana—Baton Rouge	843,598.00	1,098,723.00	660,706.00	611,389.00
The Texas Company—Port Arthur	1,382,419.00	944,753.00	329,438.00	387,395.00
Gulf Refining Co.—Port Arthur	1,815,612.37	2,283,494.63	156,566.02	278,215.91
Magnolia Petroleum Co.—Beaumont	1,281,524.90	1,493,506.92x	.....	.....
Sinclair Refining Co.—Houston	291,086.95	372,036.62	.....	91,805.00
Humble Oil & Refining Co.—Baytown	638,276.33	562,323.79	363,781.28	338,183.04
Marland Oil Co.—Texas City	.....	.....	.....	32,155.50
Galena Signal Oil Co.—Houston	128,000.00	50,000.00	28,000.00	50,000.00
Deepwater Oil Refineries—Houston	10,000.00	.....	.....	60,000.00
Total	6,390,517.55	6,804,837.96	1,538,491.30	1,849,143.45
	Coastwise Crude		**Export Crude**	
Standard of Louisiana—Baton Rouge	1,396,027.00	1,307,818.00	.....	.....
The Texas Company—Port Arthur	255,181.00	265,975.00	21,895.00	.....
Gulf Refining Co.—Port Arthur	162,084.20	101,569.55	.....	.....
Magnolia Petroleum Co.—Beaumont	.....	95,572.45x	.....	.....
Sinclair Refining Co.—Houston	356,527.69	395,132.22	.....	.....
Humble Oil & Refining Co.—Texas City	925,286.00	657,520.00	.....	.....
Neches Terminal	150,755.00	352,486.00	.....	.....
Baytown	766,405.00	440,094.00	106,996.00	110,169.00
Marland Oil Company—Texas City	455,124.15	615,613.88	23,044.86	.....
Atlantic Oil Producing Co.—Port Arthur	251,357.79	263,258.77	.....	.....
Pasadena	13,160.59	.....	.....	.....
Atreco	256,531.80	422,171.60	.....	.....
Smiths Bluff	112,109.20	165,760.45	.....	.....
Sun Oil Company—Sabine Pass	437,464.00	402,707.00	.....	.....
Vacuum Oil Company—Texas City	247,251.00	224,957.00	.....	.....
Totals	5,785,264.51	5,710,635.92	151,935.86	110,169.00

xMagnolia Petroleum Company makes no distinction in reports between coastwise and export shipments.

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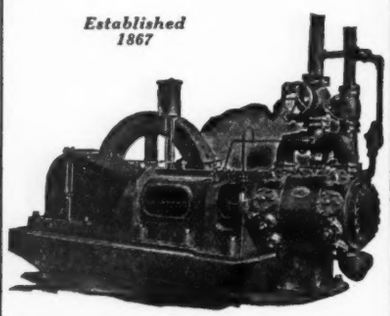
Established 1867



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Seasonal Lull Noted In Tube Market

By Special Correspondent

PITTSBURGH, Nov. 24

TUBULAR goods orders from oil well drilling sections run up a fairly large aggregate each week. Weekly tonnages, however, are by no means comparable with those of several weeks or a few months ago. Drilling operations in the interval have become much lower. Occasional orders for a carload or two at a time come through in order that jobbers in the oil country may maintain well organized stocks.

From time to time too, gas lines are placed and some attractive tonnages are to come up shortly from the Lone Star Gas Co., Dallas, Tex. From abroad comes an inquiry from the Tokio Gas Co., Tokio, Japan, which recently withdrew its inquiry on 300,000 feet of gas pipe. It now has revised its inquiry and is asking for prices on 720,000 feet. The Continental Oil Co., Continental building, Denver, Colo., is shortly to inquire for an oil line from its refinery at Farmington, N. M., to its oil producing properties in the northwestern section of New Mexico. With compressor stations, etc., it will cost in excess of $400,000.

Refiners Buy Tankage

In excess of 20,000 tons of tank plates are before Chicago steel makers including large tonnages for the Standard Oil Co., Casper, Wyo., and for Cosden & Co., Tulsa, Okla. Midwest fabricators have closed for tanks to be erected at New Orleans, La., involving 3000 tons. The Chicago price is 2.10c mill. Pittsburgh district mills are receiving meager tonnages of oil tank plates but tank car plate orders are heavy. The price is somewhat firmer but 1.90c to 2.00c still is the quoted spread. The Chicago Bridge & Iron Co., recently booked 1000 tons of tank work for the Sinclair interests at Charleston, S. C., and a Chicago company also booked 1000 tons for the Penzoil Refining Co., and 200 tons of export tank work for the Atlantic Refining Co. The Standard Oil Co., of New Jersey has renewed its inquiry for 40 stills of the larger type taking 1200 tons. The Standard Oil Co. of Indiana's inquiry for 135 small stills taking 2600 tons is still alive.

The tin plate market' price has just been reaffirmed for the first quarter to jobbers and for the first half to manufacturers at the unchanged figure of $5.50 per base box 100 pounds, f.o.b. Pittsburgh mill. The Nippon Oil Co., wants 30,000 base boxes. While competition is keen among exporters, American mills only quoted on a portion of the tonnage. The usual American figure is $5.55 to $5.60 c.i.f. Japanese port, with British prices about 10 cents a box less. The Kioto Oil Co., is understood to have awarded its 10,000 base boxes to Mitsubishi, Shogi, Kaisha, New York exporting house.

New Installations

The Gulf Refining Co., Bayonne, N. J., bought a 3-ton, 20-foot span crane, single I-beam type, from Alfred Box & Co., Philadelphia.

The Standard Oil Co., of Ohio, A. Palmer Coombs, East Ohio Gas building, Cleveland, president, will build a 1-story garage building and repair shop 80 x 80 feet at Columbus, O. The general contract went to E. Elford, 555 South Park avenue, Columbus.

The Standard Oil Co., of New Jersey, 26 Broadway, New York, recently filed plans for extensions in its refinery at Constable Hook, N. J., with cracking machinery for gasoline production, pumping plans and other structures to cost $577,000.

The Northern New Jersey Oil Co., 56 Central avenue, Orange, N. J., has acquired property at 395-407 Riverside avenue, Newark, N. J., with frontage on the Passaic river. It will install new oil storage and distributing facilities, plans for which soon will be drawn. Spaulding Frazer is one of the head of the company.

The Freedom Oil Works, Inc., Freedom, Pa., had plans drawn for a 1-story addition to its refinery to cost $80,000 with equipment. Work is to start in the spring. Richard-Irvin Co., Ferguson building, Pittsburgh, are the architects.

The Marland Refining Co., Ponca City, Okla., has awarded a general contract to the H. W. Underhill Construction Co., Wichita, Kan., for a 1-story machine shop, 90 x 200 feet and a 1-story forge and blacksmith shop, 50 x 60 feet to cost $100,000 with equipment.

The Standard Oil Co., of Indiana, Lord Street, Indianapolis, Ind., plans a new distributing and storage plant on South Harding street. It will cost about $150,000 with equipment. Schlinz & Bailey, 53 West Jackson boulevard, Chicago, are architects. The company also will build a boiler plant to cost $100,000 at Evansville, Ind.

MOUNDSVILLE, W. VA.—The Arrowhead Gasoline Co. of this city recently purchased a bulk distributing station and service station at Cameron, W. Va., which will be operated together with its plants at Moundsville and Hundred, W. Va.

The company now has storage for 160,000 gallons of gasoline, and with the new station at Cameron, covers the entire territory between Wheeling and Fairmont, reports William C. Fox, secretary and general manager.

Cracked Gasoline Knoxless-Pullsmore

Here is the ABC of anti-knock:

A given amount of energy applied *in a single instant* against a heavy drum may dent the drum—but won't move it

The same amount of energy applied in a *sustained push* will start the drum rolling, unharmed

Cracked gasoline, because it burns progressively in a cylinder, is superior as a motor fuel to straight run gasoline, which explodes with a *knock* and consequent loss of power

It is a premium quality gasoline worthy of a premium price

Universal Oil Products Company
Owners of the Dubbs Process
310 South Michigan Ave
Chicago, Illinois

We See By The Papers—

Unconscious nonsense concerning the oil industry from the press of the nation.

J. Ed. is Boosted

Editor of the Versailles, Ill., Sentinel gives the new service station a hearty send-off:

J. Ed. Heflin opens his new service station to the public tonight—Friday. Go down and call on Ed. He should receive the compliments of everybody interested in the upbuilding of the town and its business institutions. He merits success in his faith in this city and surrounding territory to support the business in which he has invested a considerable sum of money to substantiate that faith and confidence.

The Mails Must Go Through

Buford, Ga., Advertiser assigns a novel reason for the opening of a service station:

When seen by a representative of the Advertiser Mr. Tidwell stated that he had decided to open this filling station for his own convenience as well as for that of his friends as at times he found it difficult to buy gasoline when he needed it in the conduct of his mail route and the leasing of this tank made it possible for him to buy and store large quantities.

Close to Nature

Eating arrangements will be somewhat primitive for these men, according to the Rocky Ford, Colo., Topic:

As the men working on the rig will be drilling for an interest in the company, it will be necessary to house and feed them on the ground. While the pumping is going on lumber will be taken out and bunk and mess shacks built so the men will be on the ground continuously.

Quite Wonderful

Editorial fervor displayed by the Chandler, Okla., News:

Lincoln county oil fields are a wonderful sight at night with all those rotary derricks covered with electric lights. Over near Davenport where production has been found in the older part of the field it is dark, except for or five big torches of the gasoline refinery a mile north of the town, but from a half mile to a mile and a half east of where the Ozark Trail crosses the Santa Fe track where some big wells have been recently brought in there are some 40 or 50 derricks brilliantly lighted and work is being pushed rapidly day and night. The new drilling field is shown to be from a mile and a half to two miles extending from southwest to northeast, a most wonderful sight to see after night. The wonderful thing about this field is that there are no dry holes found yet.

With Benefit of Clergy

From the Barnard, Mo., Bulletin:

A meeting has been called to be held Friday night when Mr. O'Hara and Rev. Yount, pastor of the M. E. church here, will talk at the Barnard Theatre, each telling what they think of the community with regard to oil and suggesting plans whereby oil well drilling can be done here.

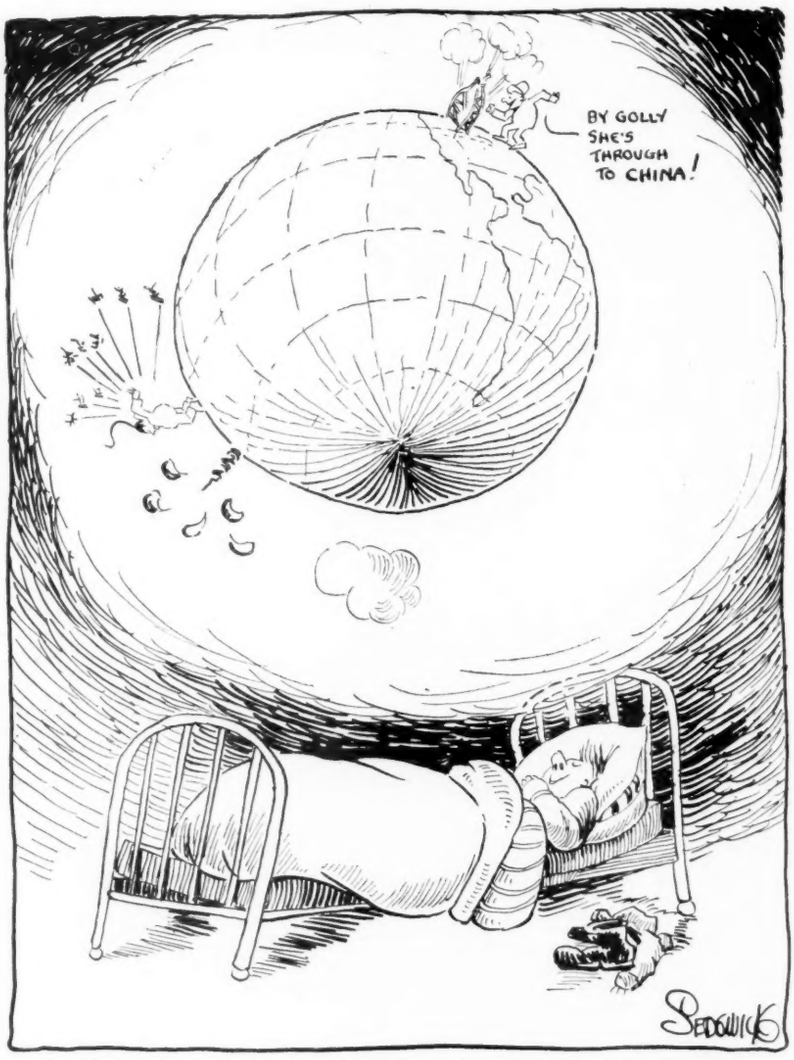
Mr. O'Hara has visited the field at Hamburg ,where an oil well was brought in, but has been temporarily closed, before coming here, and it is his opinion that they have oil there. He will tell you Friday night of his plan and as he is a man that farmers will enjoy to meet, he should have a good hearing.

Rev. Yount will also talk at the Friday night meeting on the geology of Northwest Missouri and outline the possibilities of oil in this community and tell why he thinks a well should be drilled here.

Why Potatoes are High

Spud growers spend their money drilling oil tests, as shown by the Salida, Colo., Mail:

At the meeting Monday the same farmers shouted their desire to back the well to the limit. The spuds are in the cellars and the farmers are holding them in spite of a market price of $2.00. Many farmers have potato harvests amounting to $30,000 and $40,000 and the San Luis Valley is prosperous, enthusiastic and up and coming. It was decided that $10,000 be raised in Alamosa, $10,000 in Monte Vista, $2,000 in Saguache and $2,000 in Salida with smaller allotments to smaller communities in the Valley.



NOCTURNAL FANCIES OF A DRILLER ON E.J. MILEY'S 7,591-FT. WELL

THE EDITORS' VIEWPOINT

Discussion Shows Institute's High Standing

THE American Petroleum Institute is and can be only an open forum, for the entire industry. It can act only in response to and in conformity with a general demand, a general opinion from the industry as a whole.

The officers and directors of the Institute can introduce before the industry controversial subjects for discussion. It is desirable that they do so else the industry would not be stirred to intelligent thought and the Institute would have no means of conforming its conduct to the desires and opinion of the industry. At any time that the Institute does not accurately represent not only the thought of its membership but also the thought of the industry as a whole the Institute is lost.

The Institute's directorate proceeded in conformity to this broad necessary policy in handling the subject matter of the report of the Committee of Eleven on Supply and Demand of Petroleum. However, it could have speeded up the discussion and saved much valuable time.

The Institute's directorate a year ago appreciated the importance and ticklish nature of the subject of conservation. It realized the difficulty, even impossibility, of ever possibly arriving at any agreement within the industry on many phases of the subject. The directors therefore asked a small committee of eleven prominent oil men, including its president and secretary, to try and ascertain the amount of future supply. The committee conducted a most thorough survey; 250 technical men contributed facts and opinion on various parts of the subject; the committee consolidated them in a report and attached its own conclusions, in which not even the eleven were all heartily in accord.

The report has now been before the industry for several months for the necessary discussion. It is not the report of the Industry, nor the Institute, nor of the board of directors, only the ideas of eleven men whose opinions, however, are worthy of the most careful consideration.

Some prominent members of the Institute are inclined, privately, to feel that the present discussion of the report is a bit unseemly, that it represents a schism within the Institute, even possibly a revolution and some even talk about its threatening to destroy the Institute entirely.

Such thought is nonsense. The very life and strength of the Institute is indicated in this discussion. The high regard of the oil men generally for the Institute is shown by the breadth and importance of the criticisms and the standing of the critics. Consider how lamentable it would be if these same critics were to satisfy themselves by saying privately "Oh, well, you can't do anything with that hidebound bunch, why discuss it?" Such a private comment would prove most conclusively that the Institute was dead as a door nail.

How exceedingly complimentary to the high standing of the Institute in the hearts of all oil men is the present thorough and frank discussion of the Committee of Eleven's report. No organization is dead nor can fail of its real purpose and die, with such hearty interest from those it seeks to represent.

The Institute must live and learn and it must learn to live. Discussion is its only means of livelihood, therefore.

One great regret is that the Institute did not throw this whole subject of government conservation, etc., open to general discussion when it first came up several years ago. It is also to be regretted that when the Institute's directors did launch the Committee of Eleven it did not require that committee to develop openly and fully discussion within the industry, while its investigation was in progress and before the final report was rendered. That could easily have been done.

The various chairmen of the sub-committees could have come before the many interested technical societies and other group meetings of the industry and discussed what they were trying to do and how they were trying to do it, and invited comment and suggestion. As these sub-committees came to certain conclusions their chairmen could have presented these as tentative to the industry through group meetings and through the oil press, for discussion and comment.

When this material finally came from the sub-committees to the general committee, its members could have indicated tentative conclusions and submitted those in the many ways possible for discussion. And all this need not have taken much more time than the present method of handling the report did.

The big value of such open and frank a handling of the subject is that the industry as a whole would have known that it was looking through the doorway of the committee all the time and knowing that it saw all that was going on. This would have aroused confidence in the report whether the industry could agree to the report or not. This open door method would have aroused the industry to a study of the subject in the way that the industry must, as sooner or later the industry as a whole must grapple with the problem of government intervention. Also, this method would have drawn the fire of all those with conservation ideas.

But above all, this open development of the report would probably have brought about a more general agreement to the report when finally issued, a thing always much to be desired.

As it now stands 258 pages of a highly technical report on one of the biggest subjects before the oil industry was dumped all at one time and without any preliminary preparation on the industry. Men are busy these days. Reading long technical reports, no matter how important, goes against one's personal desire for pleasure. The report has not been read as it should have been. We have found only a relatively few men who admit to having studied it.

Even the educational value of the report, and it has high educational value because of the detail and worthiness of its technical material, would be lost entirely were it not for the present discussion.

Let the Institute's directors feel proud of the present earnest interest and intelligent discussion of this committee's report and may they realize more than ever the absolute necessity of dealing openly and frankly and at all times and on all subjects with the industry's public opinion. Therein lies the real strength of the Institute and the industry. May that strength continue to grow in the future as it has grown in the past.—W. C. P.

Removal of Government Bounty Has Hit Ontario Producers Hard

By Lawrence E. Smith
N. P. N. Staff Writer

PETROLIA, CANADA, Nov. 21

SOMEWHERE near the equator is a vaguely defined oceanic region known as the doldrums. Many climatic events occur in the doldrums and most of them were to the disadvantage of the old time mariners who depended upon sail. Upon entering this region, earnest and consistent cursing was usually indulged in, for ships were known to flounder about for weeks before enough breeze came along to set them in motion again.

The term has come to be applied to any individual, event or movement that is making no headway. It is a fitting way to describe the condition of the principal oil fields of Canada, which are located in southwestern Ontario. These fields have been hanging on by the proverbial thread for a long while and the Dominion government this year almost severed that thread.

Such severance was acomplished by total removal of the bounty which for years had been a form of government aid to oil producers. This was 1½ cents per gallon on crude oil, or, as a barrel of oil is reckoned in terms of Imperial gallons, 52½ cents per barrel. Half of this bounty was removed in 1924 and the other half on July 1, last.

Since that time the operators have been plugging along, playing a losing game as a general thing—doing the best they can. Some good sized properties have been totally abandoned. Such a thing as new equipment is almost unheard of in Petrolia and Oil Springs nowadays. When something breaks it is patched up the best way possible with whatever is available on the lease. The poorest wells are abandoned and their equipment is salvaged for use on wells that after a fashion pay their way. Some operators have almost quit the business.

The bounty more than represented the profit on the operations as a whole—some part of it went to pay operating expenses. The producers feel that they have been deserted in mid-channel and that there is no place to go from where they are.

That word "bounty," is perhaps an unfortunate term. In its ordinary usage it is asociated with the capture of brigands and with the pelts of wolves, the ears of jack-rabbits and other wild animal pests. Generally, the public regards a bounty as a reward for abating a nuisance. Probably the producers of Ontario who wish to see this protection for a dependent industry restored would do well to substitute the word "bonus" should they bring the question before the Dominion parliament again, and it is probable that they will.

Producer Alone Not Protected

On the main question of protection, Ontario producers are united. Some of them believe the matter could be handled best by urging a protective tariff; the imposition of a duty on imported oil. That would conform to established practice. Oil well supplies of domestic manufacture, for instance, are protected in that manner. Crude oil is imported free of duty and the Canadian refiner is protected by an impost on refined products.

Other producers contend that the establishment of a tariff on imported oil would hit the entire oil buying public, while the restoration of the bounty on crude oil produced in the Dominion would merely affect the less than 400 barrels a day, which now represents the entire production of all Canada. (Output of the well at Okotoks is not included in this total, as its gravity is so high as to place it in the gasoline classification.) These producers say that the attempt to protect the oil producing industry of Ontario by placing a duty on foreign oil would leave the matter of protecting them wholly in the hands of the Imperial Oil, Ltd., which buys all the production. In the same breath, however, they say such dependency is not a thing to be frightened at, for the Imperial has done its best to keep the industry alive. When the first half of the bounty was removed in 1924, the Imperial promptly gave the producers an advance in price of 25 cents, almost equal to the revenue that had been cut off by the government.

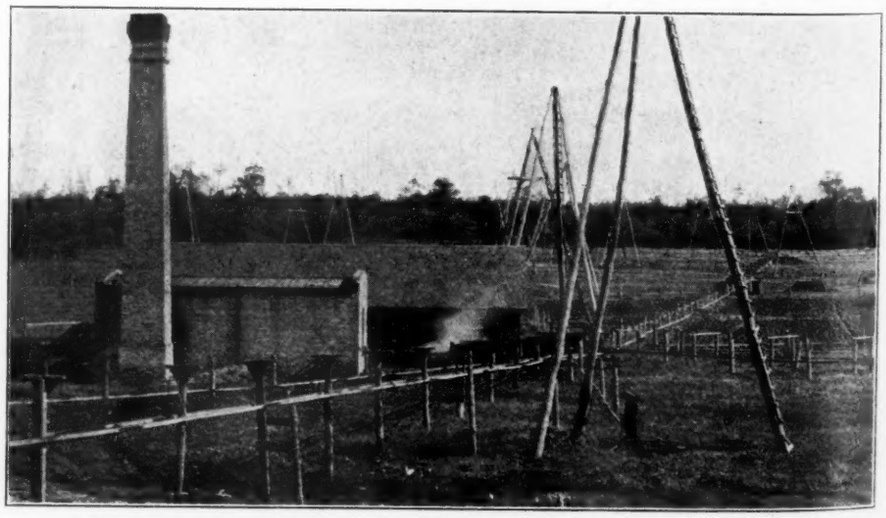
Those who incline to the protective tariff view are thinking, however, principally of what should have been done in the beginning. The local producers' association is formally committed to the policy of working for a restoration of the bounty. I. Greenizen, an attorney and manager of the Ontario Lands & Oil Co., Ltd., is head of the local association and has been most active in presenting the case for retention of the bounty.

The whole case simmers down to the fact that the government has encouraged the establishment of this producing industry in its present form and after it grew old and somewhat feeble the assistance has been withdrawn. Doubtless, the date of abandonment would have been much sooner if no bounties had been paid—this form of government aid has prolonged the life of the fields. It is simply a proposition where men have based their futures upon something considered as certain to continue, then at a late hour the basis has been removed.

Feared New Fields

The bounty payments date back to 1904 when this form of protection was substituted for an import duty on crude oil. One of the principal government reasons for taking off the bounty seems to have been the fear that huge producing wells were about to be drilled in Alberta. Such development, it was feared, would swamp the treasury.

Ontario producers are agreeable to the establishment of a bounty payment



Long lines of wood pull rods—"jerkers"—operate the pump jacks in the Petrolia field. The building at the left is a steam-power pump station.

on production from certain sized wells. Thus, the impending "gushers" would not affect the Dominion finances at all and the small wells would be conserved.

Stimuli of Doubtful Worth

Meanwhile, it is a struggle to keep going. It is doubtful whether any of the methods used in the United States for increasing production would avail much here. Production comes from a limestone, hence water drives or air pressure are out of the question, as a general rejuvenating expedient. Gas pumps have given some benefit in small installations, but nobody now can afford to make wholesale installations. Mining has not been tried, so no predictions can be made on this score. That, also, requires more money than anyone can spend, particularly as there is no certainty that it would succeed.

All that can be done, therefore, is to keep such of the 3000 producing wells in the Petrolia-Oil Springs region going as will do as much as break even and hope for a much higher market or a restoration of the government bounty, preferably the latter since it would be constant in amount and could be calculated on to yield a fixed revenue. Other fields, of course, are affected in the same way, but Petrolia-Oil Springs yields the bulk of the crude.

The business of removing equipment from one non-paying well to patch up a slightly better one has its limitations, but that is the general plan in effect now and will be until better times come, if ever they do. One operator, who has charge of several hundred wells, says that before the bounty was taken off and while he could afford to spend some money in keeping his properties in good condition, his supply bills averaged $250 a month. Now he spends less than $100 and he is constantly figuring on means to reduce it further.

Naturally, there is now no drilling in these fields—speaking of the Lambton county fields, which constitute the greater part of Ontario's oil territory. Few locations remain, in fact, where profitable production could be expected even under the old arrangement. Deeper sand possibilities have been pretty thoroughly disproved by tests drilled long ago.

It will mean the removal of the most interesting of North American fields if the Petrolia-Oil Springs district follows the course it is now pursuing. Interesting, that is, to anyone not familiar with it and who sees it for the first time. Probably, it doesn't occur to the operators there that there is anything unusual about it. No one is ever amazed at seeing the things he has done all his life.

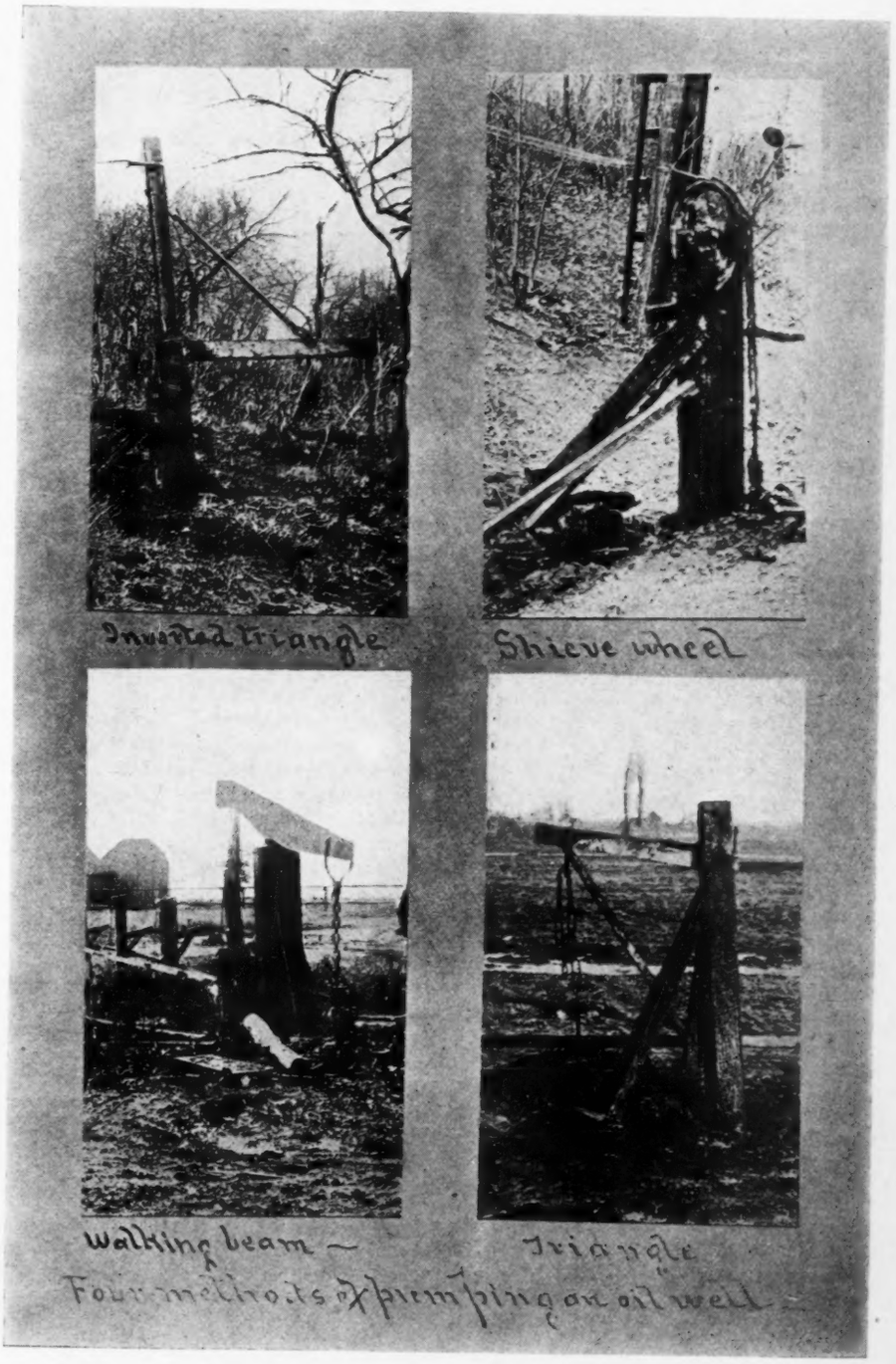
A Distinctive Field

Operating methods lend to this field an appearance not encountered anywhere in the United States. The first impression is that of a region studded with three-pole derricks. It has always been the practice to move the derrick after the well is completed and replace it with the tripod arrangement for pulling rods and tubing. Poles used are 48 feet long and erected they form a derrick about 30 feet high. A clevis is left hanging in the top of each derrick and when the well is to be pulled, a snatch block is hung in the clevis. Much of the pulling is still done with horses, although one or two operators have equipped tractors with reels.

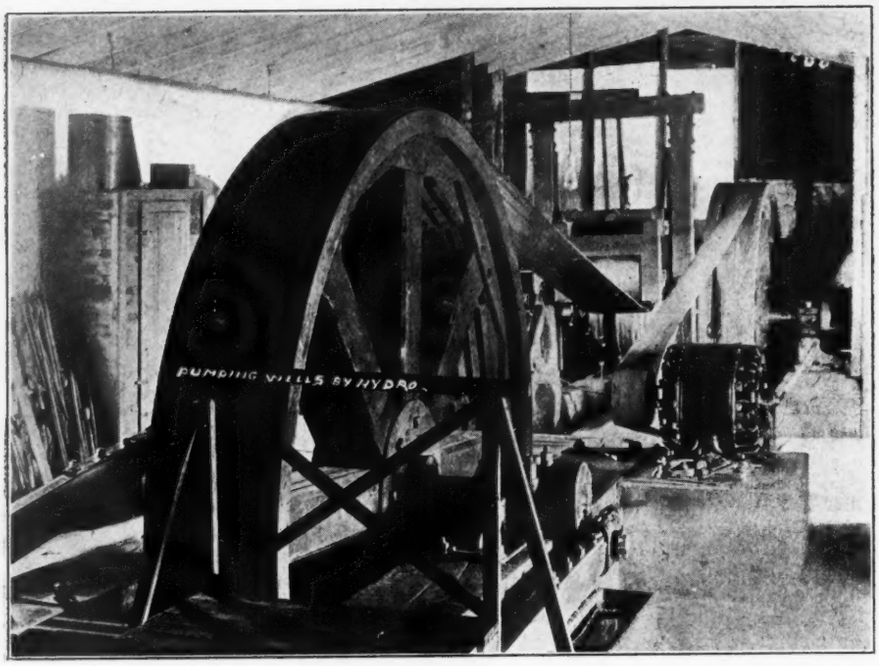
There is no district in the United States so far as the writer knows, where wells were started to drilling in the peculiar manner that was employed in the Lambton county fields. The same method would be used again, if any wells were to be drilled.

The first 90 to 100 feet of drilling is in a clay formation and to get through this the operators used a spiral auger with a long stem. This was plumbed to give it the start for a straight hole, then wooden guides were laid horizontally on the girts of the derrick to hold the auger in upright position. By means of a chain, a sweep was fastened to the stem and a horse hitched on. Around and around on the derrick floor the horse traveled. When the auger was filled with clay, it was pulled out by block and rope and dumped. Other lengths of stem were added as required.

This method was a remarkably efficient way of starting a well and less than a half day was required usually to get down through the clay. Sometimes the auger would strike a boulder and this would be removed by some form



Several varieties of pumping jacks are used in the Ontario fields. Here are four types commonly seen.



Hydro-electric power is used on many properties for pumping wells. Here are two belt-driven wheels, each of which operates one or more lines of pull rods on the lease. At the left the pitman connected to fly wheel is shown. This is connectd outside to a wheel which in turn moves the pull rods.

of socket, if it was not too large, although in some instances it was necessary to skid the rig.

The horses frequently became quite adept at traveling around in the small space provided by a derrick floor 16 feet square. They have gone the way of most horses used in other industries, however, and an old time driller in Petrolia remarked that he didn't suppose there was a "surface horse" left in the entire field.

Tank Wagon Crude Market

The oil gathering system also is unique. The Imperial now has no lease pipe lines. Years ago, when the production became too small to warrant their maintenance, these lines were taken up and the production is hauled in small tank wagons, many of them horse drawn, holding 5 to 10 barrels, to the four receiving stations of the Imperial, one of which formerly was a small skimming plant refinery just north of Petrolia. From these stations the Imperial pumps the oil into its main line running to the refinery at Sarnia.

Oil runs from the leases are therefore referred to as loads and the condition of the roads is reflected in the Imperial's daily purchases. Many of the wells are pumped into individual tanks, buried immediately beside the wells. The tanks—wooden—are generally from 4 to 10 barrels capacity. By burying them, expense of heating is avoided. Quite frequently, manure will be piled on to assist in keeping them warm. Lease tanks are fitted with a small siphon to draw off the water pumped with the oil.

An oil field is an odd-looking place if no lease tanks are in sight. There are none at all to be seen on the producing properties of Ontario, except for the "lids" which are at or slightly above the surface of the earth. Gas-tight tankage has not invaded this region, so far as the producing branch is concerned, and there is no likelihood that it ever will. That would make up another source of expenditure which, in view of the fractional barrel well averages, no one is willing to meet.

The method of pumping wells is one that is not found in the fields of the United States. Instead of the rod or wire cable pull rods from the power, Ontario producers use wood rods. These are called "jerkers." Most of these are two inches square and are 16 to 30 feet—when new. The distinction should be preserved, for the business of patching equipment extends to the rod lines and when a joint breaks, the part of it that is good is usually utilized. The rods are joined by double strap iron and bolts. Rod supports are of the overhead swing type.

Two-way Power Action

Horizontal band wheel powers play no important part in "getting the grease" in Ontario. In many of the pumping power plants a two-way transmission of power is provided by placing the prime mover in the center, belting it to a fly wheel at one end of the power house which, in turn, is belt connected to a fly wheel at the other end. The "jerker" going out of the power house is attached to the fly wheel and acts as a pitman. A few feet outside the power house is a steel wheel, lying flat and moving on a vertical shaft and this wheel is attached to the wood rod, or pitman, from the power house. The horizontal wheel is thus moved through part of a circle and the long rod lines to the wells are attached by flanges to the rim of the wheel. The pitman from the power house thus is at right angles to the travel of the pumping rods. The direction of the latter is changed or lateral lines are tied in at any point desired by installing another wheel horizontally.

Use Electric Motors

Power costs on many leases are greatly reduced by using current supplied from the big hydro-electric plants at Niagara Falls. Almost incredible numbers of wells are pumped from single powers. One power plant on the Fairbank properties in the Oil Springs end of the field is today pumping more than 150 wells. The wells are shallow—ranging from 300 feet and less to 500 feet deep. Most of them are, however, pumped full time. Operators say that better results are obtained by running full 24 hours to keep ahead of the salt water. In order to keep going steadily and not pump off the wells, small equipment is used. Probably a majority of the wells pump through one and one-quarter inch tubing. Long stroke pumps, consequently, have no place in these fields. A great many wells are pumped with only 4-inch stroke and the maximum of 12 inches.

One power plant visited by the writer was on the property of the Ontario Lands & Oil Co. This was an electric installation with a 20 h.p. motor pumping 32 wells and operating a small gas pump, which was actuated by a walking beam attached to fly wheel. Several wells pumped by this same power had been abandoned.

Not all the properties are operated electrically. Steam or gas driven powers are found in many instances, particularly where the property is small and where, in view of the small production, the cost of installing transformer and motor is too high to warrant changing over. The better properties, which will be the ones last to be abandoned, use the "hydro" method and power costs are greatly under those which prevailed before electric power was introduced several years ago.

An Unusual Town

Yes, the Ontario oil fields are quite unusual to everyone except those who have grown up with them. And Petrolia is an unusual town. Within its corporate limits there is a population quite unlike any similar body of citizens we have seen. The unlikeness lies in the mental attainments.

It is quite unsafe to put forth any observations in the hotel lobbies, say, of Petrolia, unless you know what you are talking about. There is certain to be some one in the gathering who can correct any misstatements. Not that he would, for the people of Petrolia have as much politeness as anyone—probably a little more, generally, for reasons hereinafter to be set forth—but he could if he desired.

Extensive travel in all countries of the earth is the thing that has broadened the vision of the men of Petrolia to an unusual degree. In these fields, in-

Oil is gathered from leases by small tank wagons, usually equipped with a common "pitcher" pump, and is hauled to the receiving stations of the Imperial Oil. Ltd.

singificant as they now are, hundreds of oil men have been given their training and today there is probably no country in the world that produces oil that does not contain someone from Petrolia. The past summer a homecoming week was celebrated and the statement is made that every oil producing country was represented by one or more returned wanderers.

As is well known, Great Britain has been the leader in the development of fields foreign to the United States and, naturally, British companies turned to their own nationals for the operating force. Development of the Ontario fields preceded that of anything else the British have had to do with. This, therefore, was the training school for the hundreds who have gone to distant corners of the world.

Here was started the pole tool method of drilling, transplanted to Galicia and elsewhere, later replaced by cable drilling and now practically obsolete. Here was developed the Canadian rig, which has opened up much territory in foreign lands.

The hundreds are still going and coming. At almost any time you select, you will find a number of men, drillers, superintendents and company executives, back in Petrolia spending their vacations from foreign work. Many of them maintain their families in Petrolia, getting back home when they can. Now and then one gives up foreign work and with the money he has saved, goes into some other line of work.

All this constant moving about among the diverse customs and conditions of the earth is reflected in the level of erudition of the community. The men—and many of the women—are as familiar with what is going on in Borneo, Egypt, Burma, or anywhere else you care to mention, as they are with the affairs of Canada.

As an oil center and as a city, there is no place like it. Disregarding all economic considerations, the Dominion should preserve the community as it is, if restoration of a bounty will accomplish it.

Says Quality of Gasoline Declines Each Year

NEW CASTLE, PA., Nov. 23.—An annual survey of the quality of gasoline sold to dealers in Lawrence county, Pa., made by O. D. Williams, manager of Dean's Auto Service, New Castle, reveals that the quality is falling each year, according to Mr. Williams.

Here are the distillation tests on all gasolines sold in the county, as made and compiled by Mr. Williams:

HIGH TEST

Sample	A	B	C	D	E	F
Gravity	67.6	67.3	63.6	67.5	65.5	67.5
Initial	116	90	100	80	100	94
10%	150	120	160	120	145	125
20%	170	145	185	150	170	145
30%	185	165	205	180	195	165
40%	200	190	220	215	220	195
50%	212	215	240	250	240	235
60%	230	240	250	275	255	275
70%	240	265	270	305	280	290
80%	260	310	290	340	310	320
90%	300	365	325	395	350	370
95%	338	410	370		390	420
Dry End Point	370	426	394	436	426	452
Residue	1%	1%	1%	2%	1%	1½%
Loss	1%	3%	1%	5%	1½%	1½%
Recovery	98	96	98	93	97½	97

MOTOR

Sample	A	B	C	D	E	F	G	H
Gravity	54.2	58.1	62.9	64.5	59.2	59.0	59.6	60.2
Initial	108	104	110	98	128	126	100	110
10%	150	160	165	145	180	190	150	170
20%	190	200	195	175	210	220	185	200
30%	225	235	220	200	240	245	225	225
40%	260	265	240	225	260	265	250	250
50%	290	290	255	245	280	285	275	275
60%	320	310	270	265	300	305	305	300
70%	335	340	285	290	320	330	330	330
80%	355	360	310	320	345	355	360	355
90%	380	390	340	360	380	390	395	385
95%	400	400	370	400	408	415	415	430
Dry End Point	428	430	405	422	436	446	442	450
Residue	1%	1%	1%	1%	1%	1%	1%	1%
Loss	2½%	5%	1%	2%	1%	1%	1%	2%
Recovery	97½	95	99	98	99	99	99	98

ROCHESTER, N. Y.—The Powiring Gasoline Corp. of this city recently took over the Balbright Gasoline Corp., handling Pennzoil products exclusively, reports H. T. Finz, manager of the Mutual Gasoline & Oil Corp., of Rochester.

TRIUMPH, MINN.—Martin County Co-Operative Oil Co. on Sept. 18 purchased the Dunnell Oil Co. of Dunnell, Minn., including its bulk and service station at that point, according to J. A. Trude, manager of the former company.

Well Known Oil Lawyer Dies in Meadville

PITTSBURGH, Nov. 23.—George L. Wolf, aged 73, an attorney and oil and gas man, died November 13, in his home at Meadville, Pa., according to advices received by friends at Pittsburgh. He had been ill several weeks.

He was born at Rochester, Pa., a son of Capt. Abraham Wolf, who operated steamboats on the Ohio and Mississippi rivers during and after the Civil War. He was a graduate of Allegheny College, Meadville, and of the old Western University of Pennsylvania, now the University of Pittsburgh. He read law in the office of the late Edward S. Golden of Kittanning and was admitted to the bar in Armstrong county. He later moved to Bradford, where he practiced for several years.

He became connected with the legal department of the South Penn Oil Co. of Pittsburgh, and also with the Treat & Crawford interests, remaining with the companies until 1910, when he joined the Benedum & Trees Oil Co., Bond County Gas Co., Consumers' Gas & Heat Co., and the Little Pirate Oil & Gas Co. He was a member of the Delta Tau fraternity, the Duquesne Club and the Presbyterian Church.

He leaves a daughter, Mrs. Anna Dickinson of Meadville; a brother, Abraham Wolf of Pasadena, Cal., and a sister, Mrs. M. A. Price of Pittsburgh.

Anti-Knock Motor Fuel is Already Here; Cracking Stills Make it

By Paul Truesdell

N. P. N. Staff Writer

Article 1

CLEVELAND, Nov. 23

WHEN C. F. Kettering, scientist in chief of the General Motors Research Corp. three or four years ago anounced in an address to an oil industry convention that it had been discovered that the tendency of paraffin series gasoline to knock under high compression was the most serious limiting factor in the improvement of the automobile engine, he started something.

He stated in the same address that while his technologists, headed by Thomas Midgley Jr., were then seeking a chemical that, added to gasoline, would cure this knocking tendency and be practicable for that use from all standpoints, it was the refiners who eventually would solve the problem as they learned more about the chemistry of oil refining.

Right then began a free-for-all race to discover a practical anti-knock fuel and practicable methods for its manufacture. The first heat of the race went to the General Motors Research Corp. when Midgley announced the discovery of tetra-ethyl lead. Some oil industry technologists helped vastly in the development of processes for the manufacture of this chemical, notably those of the Standard of New Jersey.

The comparatively wide distribution of Ethyl gas, the motor fuel treated with tetra-ethyl lead, by a number of companies, demonstrated that a fuel which would not knock under a slight increase in compression and heat, that would run the car at heavy load with the spark fully advanced without knocking, was highly desirable.

Oil Industry Redoubles Effort

The activity of oil chemists in research and experiment was redoubled in the effort to discover a method of making a fuel from crude oil without the addition of any chemical, that would give the same desirable results.

Probably most men in the oil business, outside perhaps of the scientific men who were carrying on the research work, have looked for some stunning invention or discovery to burst out that would forever solve the problem of a knockless motor fuel, maybe in the process, sweeping all present methods of refining and especially of cracking, into the discard.

Sometimes discoveries are made that way but more often the result desired is arrived at by patiently adding, a little at a time, to the knowledge already in existence. Instead of arriving at one bound, it looks as though the oil industry scientists have rather sneaked up on the solution a little at a time. They have, so to speak, surrounded it from many directions.

In fact, it appears that the solution is of the anti-knock fuel problem is not to be like a tremendous searchlight shooting through the darkness from a single point and in a single direction, but rather a gradual lightening of the whole industry like the coming of daybreak. And it will be lighter as the day advances.

Some great and important discoveries have been made by chemists of the oil industry in connection with it. Some of them are of great moment and there is no desire to detract here from their importance. New methods of refining oil have been discovered that make a satisfactory anti-knock fuel and that add greatly to the sum of knowledge of the refining art.

But while the Gulf Refining Co., the Sinclair Refining Co., William G. Leamon and others have brought out motor fuels of anti-knock characteristics by new processes, others have found out that anti-knock fuels, that is at least fuels of less knocking tendency than straight run gasoline from ordinary crude in which the paraffin series of hydrocarbons predominates, are being made every day by cracking gas oil and fuel oil in pressure cracking equipment such as has been long in use.

Motorists Willing to Pay

And it is being marketed by at least two companies as anti-knock fuel at a premium price. That it really is an anti-knock fuel seems to be proved by the fact that a large business has been built up over a long period among motorists who find results it gives worth paying a premium for.

Oil industry chemists as well as automobile engineers have long known that the members of the paraffin series of hydrocarbons are the most troublesome in an automobile engine when temperature and compression pressure go up.

And the sad fact is that these troublesome paraffins predominate in practically all crude oils—some California and Borneo crudes being exceptions. Hence, most of the gasoline used being straight run and involving merely physical distillation, fractionation and condensation, the chemical nature of the molecules has not been changed at all and the gasoline from straight distillation has also contained a predominance of paraffins.

Another thing about the paraffins is that they are hardy. They are not soluble in sulfuric acid and hence can be treated with that reagent with a minimum of loss. So, until comparatively recently, the paraffins have been regarded as the real leaders in the family. When it came to eliminating the knocking tendency, there were two ways to attack the problem. One was to find a chemical that would slug the knocking paraffins into submission, so to speak, which is what tetra-ethyl lead does. The other, which has been followed by oil chemists chiefly, was to find a means of changing the nature of the paraffin molecules; converting them so far as possible, into olefins, aromatics and naphthenes, which are more orderly and will do their work without complaining under much higher compression and heat than will the paraffins.

Mr. Leamon has announced a cracking process by which he does this and makes Stellarene. The Gulf Refining Co. has not had anything to say about the method by which it produces No. Nox, an anti-knock fuel in which it has built up a very large business within three or four months, but it is generally believed that it has some process which converts the majority of the paraffins into naphthenes or aromatics.

Sinclair likewise has refused to make any statement as to how its anti-knock fuel is made further than to state that it is a cracked product. How it is cracked or what is the nature of the fuel we do not know.

Ordinary Cracking Does It

But the news that has greatly surprised most of the refiners is that the product of ordinary cracking stills, Burton, Cross, Dubbs, Jenkins and the rest of them, is a fuel of very much less knocking tendency than straight run gasoline. This is not to say, however, that all the cracking processes and all methods of operating them give fuels of equal anti-knock value.

The reason why this anti-knock virtue in cracked fuels was not discovered sooner probably was that for years there has been a prejudice more or less pronounced, against cracked motor fuel. Much has been made of the virtues of straight run gasoline in advertising and otherwise, while cracked gasoline has been frequently attacked.

So for this reason it has been the general practice of refiners to mix off the gasoline produced by their cracking stills with the straight run product, a great

many times mixing in more or less natural gasoline until the statement made by representatives of the Standard of Indiana a year or two ago at some public hearing to the effect that it was impossible for them to tell how much of the company's product was straight run, how much was cracked and how much was natural gasoline, was true of almost all refiners who operated cracking stills.

So the anti-knock value of the cracked product was almost or altogether lost through mixing of the stuff with predominating amounts of gasoline of the paraffin series. Oil men long ago satisfied themselves that cracked gasoline was quite as good as straight run but it is only recently that it has been found to be better.

Refiner Should Brag About It

And now, in the light of the latest knowledge on the subject, it appears that the refiner, instead of trying to hide or disguise his cracked gasoline, ought to brag about it. There are some oil men well versed in the business who do not believe in the superior anti-knock value of cracked gasolines in general but the weight of expert opinion is rather against them.

And the fact that ordinary cracked gasoline is being successfully sold, as before mentioned as an anti-knock and that the demand for it is increasing, is against them too.

Within the past three or four months three recognized technical authorities on motor fuels and cracking who have been working independently, have come out with statements that cracked gasoline is a superior anti-knock fuel. These are Walter M. Cross, inventor of the Cross cracking process, and head of the Cross Engineering Co.; Gustav Egloff, technologist of the Universal Oil Products Co., owner of the Dubbs process and A. Ludlow Clayden, technologist of the Sun Oil Co.

That the automotive industry is alive to the situation, too, is indicated by the fact that Automotive Industries, a business paper devoted to the interests of the automobile manufacturers, published in a recent issue an article on the subject by Mr. Clayden. In this article, Mr. Clayden expressed the opinion that the anti-knock fuel is here already and that the oil industry will be able to furnish suitable fuel as fast as the automobile engineers can develop engines to take advantage of it.

He pointed out that high compression engines, which are the aim of the automobile designer as the most important means of increasing efficiency while cutting down weight, will not come overnight at one jump any more than the anti-knock fuel came that way. Various other factors besides the compression ratio itself have to be considered, he said, which means that the high compression engine must be a gradual development. Some automobile companies are already feeling their way in that direction.

Dr. Cross, after mentioning the possibility of making an anti-knock fuel by mixing with the gasoline a chemical, says:

"The second method of eliminating knock from gasoline is to have the anti-knock properties inherent in the chemical constituents of the gasoline or motor fuel. The value of such products is evidenced by the widespread use of gasoline-benzol mixtures. In fact, there are three general sources for this type of gasoline as follows:

Sources of Anti-Knock Fuel

"a—Coal tar naphtha having the boiling point range of normal gasoline and containing benzol, xylol, toluol and related hydrocarbons.

"b—California natural gasoline which contains in its lighter fraction hydrocarbons having marked anti-detonating qualities.

"c—Gasoline produced by the thermol decomposition of hydrocarbons under high pressure commonly known as cracked gasoline.

"Naturally, the first two sources of supply mentioned are limited. The third source is practically unlimited and the anti-detonating qualities are dependent upon the particular method of cracking. It has been shown that the cracking at high temperature and high pressure is more conducive to the production of gasoline of good anti-detonating properties.

"While the cause of these properties in motor gasoline is not thoroughly understood, it appears from the data now available that hydrocarbons of the proper boiling point and with a higher percentage of carbon have the better anti-detonating value or in other words, the larger the percentage of hydrogen in the volatile fuel, the greater the liability to knocking.

"This may possibly be explained by the observed fact that the rate of propagation of an explosion is faster the greater the amount of hydrogen the mixture contains. For example, the rate of propagation of explosions of hydrogen and oxygen in the right proportion has been determined as about 2800 meters per second, that of methane and oxygen at 2280 meters per second and carbon monoxide and oxygen 1000 meters per second." (It is recognized that too rapid explosion propagation in the engine cylinder is the cause of detonation.)

"It may also be shown that the lower the ratio of the distilling temperature of a hydrocarbon to its specific gravity the better the anti-detonating properties."

The accompanying chart, Figure 1, was prepared by Dr. Cross to show the relative merits of various fuels from an anti-knock standpoint and to show the relation between anti-knock properties and low gravity. Concerning Figure 1, Dr. Cross says.

"These various properties of gasoline are set forth in Figure 1. The relative value in the order named for use as anti-detonating motor fuel for carboned cylinders or high compression motors would be approximately as follows:

"Benzol-gasoline.

"Synthetic gasoline from cracking coal tar gas oil.

"Synthetic gasoline from cracking kerosene under high pressure.

"California natural gasoline.

"Synthetic gasoline from cracking paraffin base petroleum.

"Mid-Continent natural gasoline.

"Pure paraffin base gasoline.

"A more detailed study of these curves shows the superiority of California gasoline to any other natural gasoline and

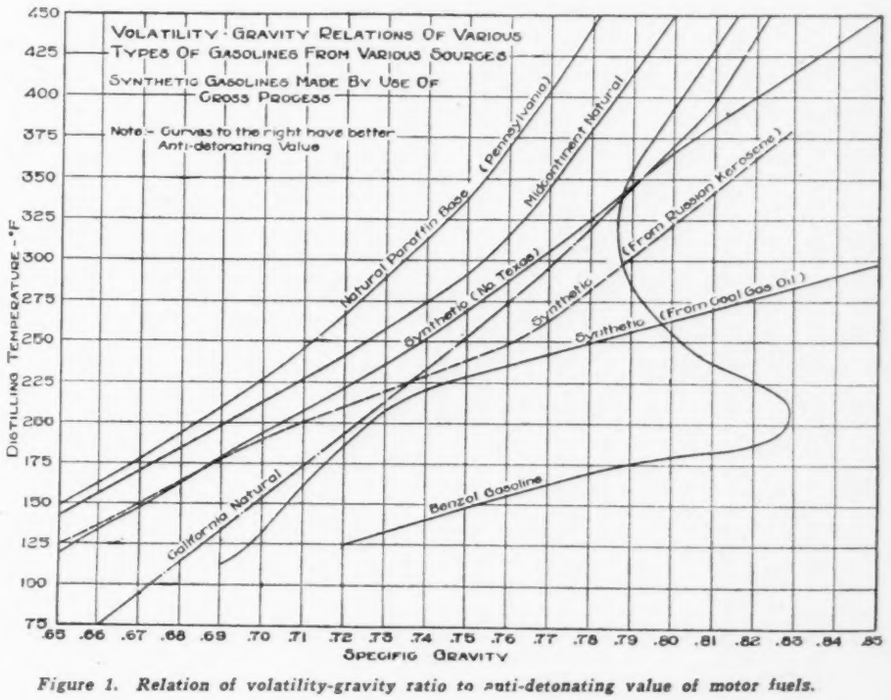

Volatility - Gravity Relations Of Various Types Of Gasolines From Various Sources
Synthetic Gasolines Made By Use Of Cross Process
Note - Curves to the right have better Anti-detonating Value
Distilling Temperature - °F
Specific Gravity
Natural Paraffin Base (Pennsylvania)
Mid-continent Natural
(From Russian Kerosene)
Synthetic (No Texas)
Synthetic
Synthetic (From Coal Gas Oil)
California Natural
Benzol Gasoline

Figure 1. Relation of volatility-gravity ratio to anti-detonating value of motor fuels.

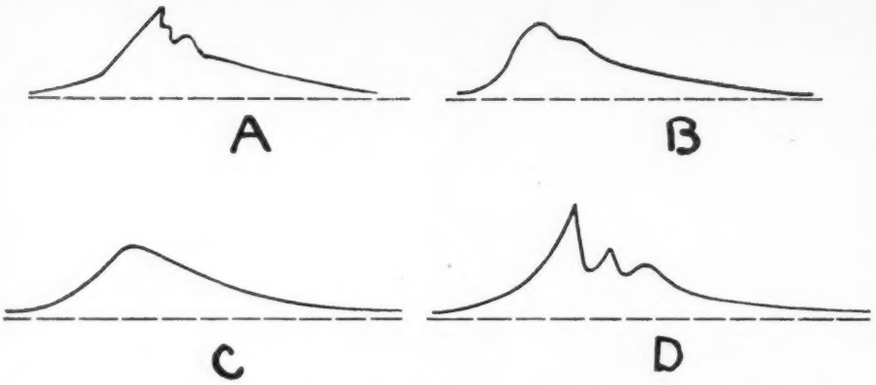


Figure 2. Curve A was obtained using 58-gravity U. S. Motor gasoline made from Mid-Continent curve. Curve B was obtained using 54 gravity U. S. Motor gasoline made from California crude. Curve C was obtained using 57 gravity synthetic gasoline of 437 end point made by cracking kerosene. Curve D was obtained using a 58 gravity U. S. Motor gasoline to which had been added a combustion inducer.

to cracked paraffin base gasoline in the lighter fractions. However, in the heavier fractions, it is inferior to synthetic cracked gasoline. The synthetic cracked gasolines referred to were made by cracking at temperatures of 850° F. to 920° F. and pressures over 600 pounds in commercial plants. It is apparent that an almost ideal gasoline could be made by blending California natural gasoline with synthetic gasoline made by cracking kerosene.

"In view of the fact that the heavier fractions of synthetic gasoline have the better anti-detonating value, it becomes apparent that a predominance of these fractions is desirable."

Figure 2 shows some explosion pressure curves also made by Dr. Cross. These are made by a process that amounts almost to photographing the progress of the fuel charge in the engine cylinder. These were made using a single cylinder engine under normal compression under like conditions of timing, carburetor adjustment, speed and load for each of the four tests. A sharp hump indicates severe knocking and the smoother and more even the line, the more free from detonation is the fuel. With this guide, it is easy to see the relative merits of the four fuels from an anti-knock standpoint.

The article by Mr. Clayden referred to will be published in the Dec. 2 issue as Article 2 in a discussion of anti-knock fuels.

Gasoline Consumption In Sept. Below That of Aug.

NEW YORK, Nov. 23.—Gasoline consumption during September in 29 states having gasoline tax or inspection laws, totaled 349,522,898 gallons, which is a daily average of 11,650,763 gallons, compared with a total of 360,179,662 gallons in August, a daily average of 11,618,699 gallons, showing a decrease of 3 per cent under August, according to figures of the American Petroleum Institute.

As compared with 296,636,421 gallons in September, 1924, gasoline consumption in September of this year increased 52,886,477 gallons, or 17.8 per cent.

Gasoline consumption for the nine months ended September totaled 2,654,171,843 gallons, compared with 2,175,577,026 gallons for the corresponding period in 1924, which is an increase this year of 478,594,817 gallons, or 22 per cent.

The table appearing below has been compiled by the Institute from returns made to it by wholesalers and dealers in gasoline in various states:

Gasoline Consumption by States

	Month of			9 Months Ending With	
	Aug., 1925	Sept., 1925	Sept., 1924	Sept., 1925	Sept., 1924
Alabama	10,089,541	9,707,282	8,020,647	77,981,490	62,032,868
Arizona	2,429,305	2,469,556	2,204,071	20,738,658	17,581,418
Arkansas	8,947,860	7,664,817	6,285,262	61,256,734	42,416,784
Colorado	9,571,565	11,461,002	11,461,002	76,747,359	68,530,769
Delaware	1,827,626	1,685,972	1,701,925	13,300,690	12,001,099
Florida	17,565,580	18,872,446	9,753,312	140,421,960	89,751,477
Georgia	12,655,266	13,909,647	12,005,681	105,178,434	89,231,264
Idaho	4,118,517	3,648,205	3,142,273	24,205,428	20,976,376
Indiana	28,456,767	28,806,938	25,165,359	203,331,316	182,421,250
Kansas	21,053,350	19,284,750	17,732,450	162,247,150	136,794,850
Kentucky	10,984,400	10,505,355	10,485,109	74,459,791	61,688,605
Louisiana	10,129,044	10,902,775	8,953,517	86,332,240	71,437,941
Maine	8,351,617	7,498,300	6,923,781	42,672,313	38,896,367
Minnesota	26,256,800	26,440,900	24,207,384	184,784,400	158,739,814
Mississippi	8,290,493	8,127,972	5,943,561	60,301,862	42,517,383
Missouri	30,219,650	21,191,100	16,870,300	187,276,300	153,786,300
Nevada	985,097	921,824	805,256	6,930,021	6,202,582
New Hampshire	4,923,572	4,333,619	3,855,819	27,126,314	23,135,013
New Mexico	1,988,405	1,987,453	1,922,280	15,514,128	13,378,372
North Carolina	12,984,252	17,165,101	13,114,862	134,016,775	110,075,887
North Dakota	8,765,275	9,290,853	8,575,965	50,921,155	37,634,545
Oklahoma	16,475,974	17,482,403	13,797,978	134,744,392	103,996,449
Oregon	11,130,032	10,367,175	9,052,608	76,701,196	66,236,436
South Carolina	7,870,012	7,451,443	6,442,829	61,784,916	48,017,674
South Dakota	9,210,516	9,602,012	8,551,107	56,191,422	46,516,727
Texas	41,752,492	41,656,264	33,760,747	339,773,459	266,288,039
Virginia	13,134,972	9,165,249	10,280,363	90,996,285	80,157,644
Washington	17,597,023	15,834,004	13,887,484	121,668,806	109,504,194
Wyoming	2,414,659	2,088,481	1,733,489	16,566,849	15,628,899
Total	360,179,662	349,522,898	296,636,421	2,654,171,843	2,175,577,026
Daily average	11,618,699	11,650,763	9,887,881	9,722,242	7,940,063
Increase over previous year:					
Amount	.....	52,886,477	.....	478,594,817	.....
Percentage	.....	17.8%	.....	22.0%	.....
District of Columbia	4,123,617	3,995,862	3,168,938	33,101,791	(a)
Michigan	51,271,670	47,374,268	(a)	(a)	(a)
Rhode Island	4,966,152	4,700,887	(a)	(a)	(a)

Pure Oil Shuts Down Cushing Refinery

TULSA, Nov. 23.—Pure Oil Co. is temporarily closing down its refinery at Cushing. Part of the crude supply for this plant will be diverted through the company's lines to its plants at Muskogee and Ardmore.

Operations of the two plants, however, will not be increased enough to equal former runs for the group of three. Remaining crude will be stored to await the reopening of the Cushing plant.

Action of the Pure is an indication of the current trend of manufacturing practise in the Mid-Continent field. Refiners are inclined to store crude for late winter and spring operations rather than run it through stills and produce gasoline in excess of current market requirements. The trade is confident that crude stored now will appreciate in value within the next few months unless there is a surprise pool opened to unsettle the market.

Refinery In Receivership

TULSA, Nov. 23.—R. H. Bradford of El Dorado, Kan., was named receiver for the El Dorado Refining Co. by Federal Judge John C. Pollock at Kansas City this week. The receivership was granted on petition of bondholders. The property will be operated by the receiver as formerly.

SPOKANE, WASH.—The Union Oil Co. of this city has completed several service stations here.

SOME idea of the possibilities to the oil marketing company in developing the market for industrial lubrication, as apart from the motor oil business, was outlined to the National Petroleum Marketers Association at its Louisville convention by John Rome Battle, lubrication egineer.

Mr. Battle's address to the convention came the day after it had been announced association directors had voted to establish an industrial lubrication department as a phase of their association work. He spoke on the necessity of this business being handled on the basis of engineering service rather than sought on the basis of price alone. He also took up in some detail the methods under which this industrial lubrication business could best be gone after by the oil company.

Mr. Battle is the author of "Industrial Oil Engineering," a well known handbook used by the oil industry. He formerly wrote for National Petroleum News on industrial lubrication problems.

Industrial Lubrication is Profitable Field For Local Marketing Company

By John Rome Battle
Industrial Oil Engineer

Delivered before N. P. M. A. Convention, Louisville, Nov. 17

FROM my contact with the oil marketer on one hand and the large consumer on the other, I have come to the conclusion that, with regard to industrial oils, you are both working to the same end, but not doing good team work. You are anxious to make your products to suit the consumers' requirements, yet you are not receiving full price value for them. The consumer is steadily appreciating the fact that there are right oil products and most efficient oil products for each purpose. But he has not been measuring their value from the angle of the service they will render him, simply because you do not present them to him on that basis.

The main reason I believe that you have not followed more closely the principle of selling the service of the product, rather than the product on a per-gallon price basis, is because the total cost of industrial oil products represents such a small percentage of the cost of the consumer's operating expense that both you and the consumer underate the importance of engineering service in proving industrial oil service value, and thus insuring most efficient and economical results in their use.

It is increasingly evident that large users, as well as small users of industrial oils, are paying more attention to their purchase and use than ever before. It would surprise the average oil man to know how accurately the large industrial consumer knows, to the fraction of a cent, what the lubrication of his plant is costing him. The problem of selling your products at a price commensurate with their value requires for its solution more engineering service on the part of your sales organization.

With this point in mind, I would like to call your attention to six facts, which have a direct bearing upon profitable marketing of industrial oils to the consumer:

First: Examination of the operating costs of a large number of representative industrial and public utility plants shows that the actual cost of lubricants and industrial oils, represents less than one quarter of one per cent of the total cost. This is an average figure, and as a matter of interest I give the following typical figures:

John Rome Battle

A steam plant generating electric power and considered a fair average of a number of similar plants, showed the following costs per 1000 K. W. hours;

Fuel	$3.30
Labor	.50
Handling Fuel and Ashes	.157
Lubricants, Transformer Oils, etc.	.017

A large group of textile mills, producing in the aggregate over 16,000,000 yards of cloth per year, showed an average cost for lubricants of but three-tenths of one per cent, of the total production cost of the cloth.

A number of iron and steel plants showed a lubricant cost of but one fourth of one per cent. A group of paper mills, making a total of about 30,000,000 pounds of high grade papers per year, showed an average cost for lubricants of but 0.19 of 1 per cent of the production cost. Another group of paper mills showed a cost for lubricants ranging as low as 6.3 cents per ton, and in no case over 13.1 cents per ton of the paper produced.

As a final illustration I quote the figures of a large group of public utility plants generating an aggregate of 1,226,400,000 K.W. hours per year, where the costs were distributed as follows:

Fuel	75.075%
Labor	12.789%
Maintenance	6.689%
Overhead	3.219%
Other expense	1.601%
Lubricants, Transformer Oils, etc.	0.627%

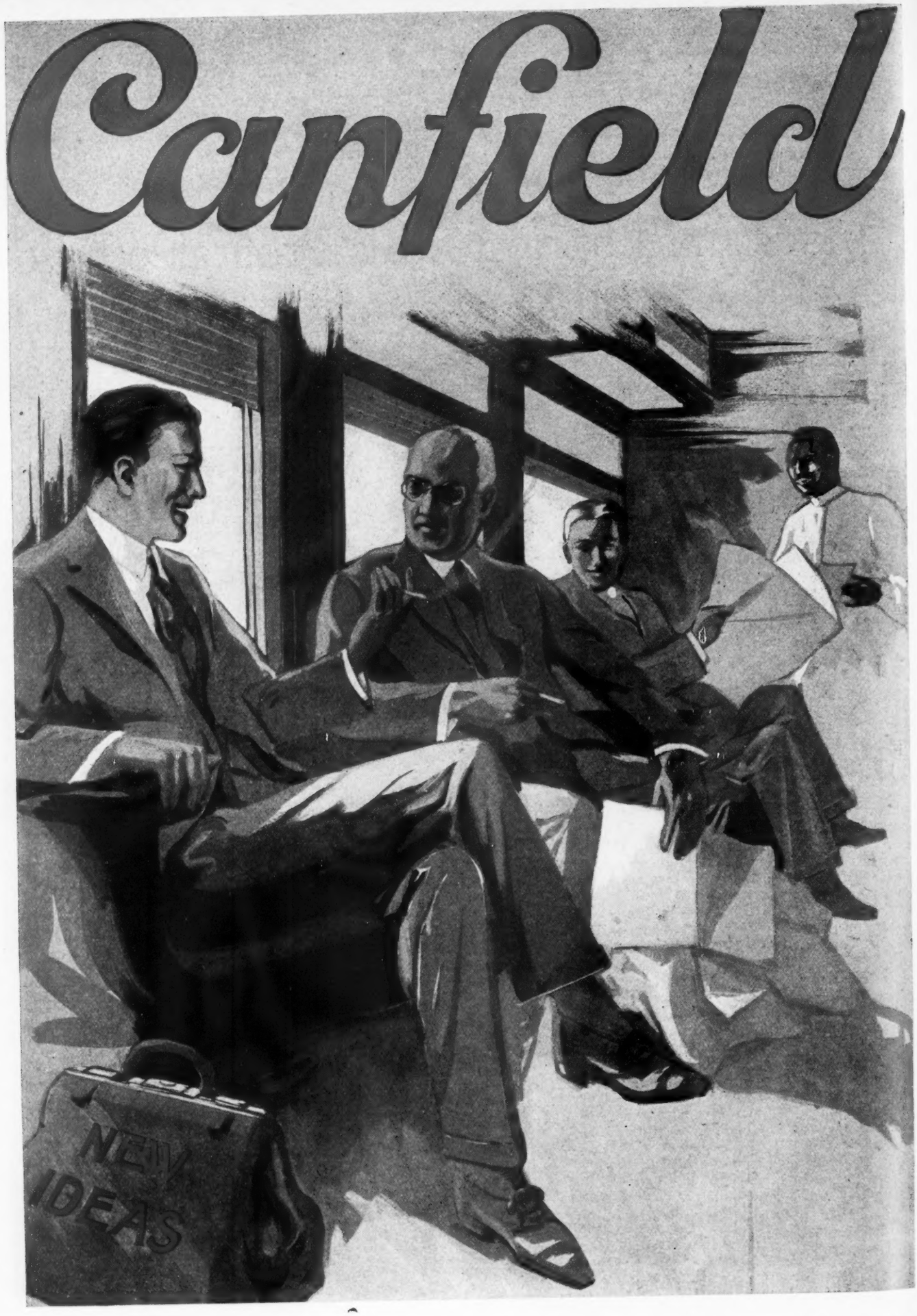
The striking point brought out is that, while the lubricants and other oils used in these plants are absolutely essential to their operation, efficiency, and minimum depreciation, yet their cost is a trifling sum when compared to the other items of operating and production cost.

Margin to Develop Service

In fact, the cost based upon gallons and pounds bought is so small that it would stand considerable increase without being much of a factor in the operating expense. Therefore, I cannot see why industrial oil products need be peddled about on a cut throat price basis when, by the addition of a reasonable amount of sales engineering service on the part of the seller, their true value can be demonstrated and obtained. In fact, this is being done by some marketers now.

Second: To determine whether the industrial consumer desires more sales engineering and less old fashioned oil salesmanship, I directly asked a large number of plant engineers and executives about this, and 98 per cent replied they preferred to buy their lubricants and industrial oils from the oil company equipped to render them de-

(Continued on page 62)


Canfield
NEW
IDEAS

"I'm glad I went to Louisville!"

IT'S a great thing when hundreds of men, all from one big industry, get together and lay all of their cards on the table, face up. They say, in effect, "Here's what I did;" "Here's what I believe we all should do;" and so on.

Now you're back home with a wealth of new materials and ideas. Put them to work for you. Don't put things off, but choose wisely and make 1926 your *big* year.

You remember "Canfield Premium, Good Enough to Drink"—that good ginger ale at the Convention.

Well, we want that to keep reminding you of the *genuine* Canfield Premiums, 100% Pure Pennsylvania Motor Oils, good enough to merit your trade name.

Canfield Premiums will help you greatly in building repeat business, the most valuable business any oil jobber has.

Canfield Premiums resist breakdown unusually well. They are straight run, produced by the Sharples Process at our Coraopolis Refinery. Shipments made in tank-cars, compartment tanks, drums and barrels.

Canfield's Famous Jobbers' Products

Premium Motor Oils
Premium Tractor Oils
Canfield Filtered Motor Oils
Western Motor Oils
Western Tractor Oils
Zero Oils
Black Oils
Car Oils
Castor Machinery Oils
Belt Dressing
Soluble Oils
Cutting Oils
Filtered Neutrals for Turbines, Dynamos, etc.
Non-Viscous Neutrals
Red Oils
Filtered Cylinder Oils
Steam Refined Cylinder Oils
Petrolatums
P. O. C. Gear Compound
Zero Gear Compound
High Pressure Lubricants
Cup Greases
Crank Pin Grease
Graphite Grease
Fibre and Sponge Grease
Gear Shield
Axle Grease
Auto Soap
Mine Car Greases

THE CANFIELD OIL COMPANY

Serving Jobbers Since 1886 — *General Offices:* CLEVELAND

Refineries: Cleveland, Ohio; Coraopolis, Pa. *Compounding and Grease Plant:* Cleveland
Greater New York Warehouse: 285 Tonnelle Ave., Jersey City

(Continued from page 59)

pendable engineering service as a part of the oil sale transaction.

Different plants require different methods with respect to sales engineering. Some are open to the proposition of having an industrial oil engineer go over their equipment with the purpose of making up a plant survey and lubricant recommendation sheet. Some like to know that, if at any time something goes wrong with their lubrication, or with some process using industrial oil products, a competent man will be sent there to get at the cause and remedy it.

Study Special Problems

Others have special problems of all kinds, ranging from quenching or tempering steel, to oiling wool to be spun into yarn, upon which they want dependable oil advice. There is no doubt that, when an industrial plant is well served with good oil products, correctly made and correctly selected for their work by a competent sales engineer, operating results prove the economy of these products, and that business is hard to dislodge from you for cut rate price and is highly profitable through continued re-sales.

In this respect, industrial oil business differs from motor oil business, because an industrial plant, once suited with an oil, wants exactly that same oil on each lot bought, and will take pains to get it and generally carry a reserve supply; but I have yet to find the motorist that will "ride a mile for a quart" of motor oil, if something just as good—so the garage man says, is more convenient.

The **Third** fact, which I call to your attention, has to do directly with your sales organizations. I find, from the statistics of a considerable number of large and small oil marketers, that less than 10 per cent of the industrial lubricating salesmen taken on make good, and that the main reason for this low average, and I might say costly low average, is because most of these salesmen are started out equipped with a price book, sometimes a sample case, and **rarely**, a practical knowledge of their products and how to sell them. This puts an unnecessary sales expense on your industrial oils.

Educating Salesmen

Now there is food for thought on this point. In oil company organizations with which I have come in contact, it generally takes about six months to find out whether a new salesman in the industrial field is going to make good. This is because a new man takes some time to become acquainted with the trade, contracts cover some business, and industrial buyers like to learn to know the salesman before they begin to order. But this six-months experiment costs you money, and, even if a man is paid a mere living salary to start, this with the cost of supervision and travelling expense amounts to a tidy sum.

Certain oil marketers with a well established industrial oil sales record first select men capable of being trained in the elements of industrial oil engineering. Before starting these men out on sales work, they are given a training that takes at least the raw edge off, and gives them an insight into the field of work they are entering. It is astonishing, but true, that many salesmen selling even the basic industrial lubricants, such as steam cylinder oils and engine oils, have absolutely no knowledge of engines, steam, bearings, and so on. Personally, I cannot see how any man can profitably sell something, where his sole sale argument is price.

I would like to illustrate to you a certain point about that transaction called a sale, because, I think it will bring out the difference between selling industrial oils and selling other oil products which partake more of the average commodity aspect. Thus it may demonstrate the need for a different kind of salesmanship, if you want to receive full worth for your industrial oil products.

A Point of Difference

Every sale involves a buyer and seller. Upon the seller's ability to produce or furnish something which the buyer can be convinced is to his advantage, or to his necessity to secure, depends the creation of the buying impulse in the buyer's mind. This buying impulse is the self starter every sales transaction needs. After the buying impulse is created, the sale transaction is consummated when the buyer's money is exchanged for the seller's product. The keynote of a sale is thus necessity or advantage to the buyer.

Now, in a sale of industrial oils, the necessity to the buyer is beyond question, for he cannot operate his plant without lubrication: but the **advantage** to the buyer, if he buys your oil products, can only be demonstrated by the results they give in use. If a profitable price is to be received from the sale, it rests with you as the seller to see that the product is made to meet requirements, selected to suit the individual case, and used to give the best efficiency. The buyer must generally be shown these facts, by having such points as decreased bearing wear, better production, saving in power, and so on definitely brought to his attention.

This will involve oil sales engineering on the part of the salesman and more than mere sales effort. The salesman with a lot of friends can get some business, but the profit is not made from the first sale, and it takes engineering service to maintain repeat sales, where the profit does lie. A recommendation report or survey, accompanied by a contract or sales proposition, bears more weight than an ordinary sales argument unsupported by evidence of value.

The **Fourth** fact I have noted is that, while a great many oil salesmanagers agree that a salesman is helped by having available the tests of his products, provided he knows how to use them in making proper selection of the right product for his customer; yet many sales managers feel that the salesman will start talking tests and get away from the sale by confusing the buyer. But if the salesman has been trained to understand the meaning and value of the various oil tests, and their relative weight with regard to service in practical use, then tests become a strong asset to him. Incidentally, he will often find that the consumer is equipped with some oil knowledge, sometimes good, and more often totally wrong, and here a knowledge of tests and their meaning will serve the salesman well.

The **Fifth** fact that is very evident, is that few marketers of industrial oil products, make any kind of survey or census of the industrial trade lying in the territory which they cover. Without such a survey or analysis, it is not possible to get the most in industrial oil business out of any territory, nor to develop industrial products in line with the majority of the buyers' requirements, nor to know whether or not the salesman is properly covering his territory.

Survey the Territory

Industrial oil products marketing requires constant and regular solicitation of each consumer in each salesman's district, a knowledge of his mechanical and industrial oil requirements, and familiarity with what your competitor is doing.

Petroleum industrial products are in such universal use, in one form or another, that organized and restricted salesman territories, a definite sales area, suitable saleman's reports, and proper follow up are essential to profitable and sound progress. No salesman should be allowed to cover a greater number of accounts than he can call on regularly, with reasonable frequency.

One of the commonest mistakes in the case of those companies which do not follow the limited territory principle is that the area of accounts solicited becomes so wide spread that the cost per salesman's call, travelling expense, freight on shipments, and delivery charges, combine to add such a load to the sales that either profit or volume suffers. If you will consider a moment, "close marketing" is the practice of the most difficult competitors you have.

The principle points to be considered in outlining a salesman's territory are:

(a): Number of accounts embraced: By that I mean the number of potential buyers of industrial oil products. In arriving at this figure, a good plan is to call any buyer one industrial account, if his consumption of lubricating and industrial oil products is estimated to be over five barrels per year. Some closely worked territories, reduce this to two barrels per year, and this depends upon the density of the accounts.

Intensive Development

(b): The density of the accounts: By that I mean the area over which they are spread, which of course affects the number on which a man can call per

day, and the cost of getting him about. The idea in outlining territory is to try to arrange it so that a salesman can make a reasonable number of calls per day, without crowding his visits. There is a direct average between the number of sales made, and the number of calls made. The old idea, that a few calls on selected trade meant more sales, as against a determination to visit as many buyers per day as possible without taking this too literally, is a proven fallacy.

(c): The character of accounts: This refers to the type of the plants. For instance, if steel mills predominate in a certain area, try to arrange the territory so that the same salesman handles as many as possible, so that he becomes more or less a specialist in steel mill lubrication, and the same applies for any other industry, whether coal mines, textile mills, or other types.

I am a firm believer in salesman reports, sent in daily, particularly in industrial oil selling. It is an easy matter to print a simple report that will keep the home office advised of each day's work, and enable the office to maintain a suitable card record for each account in the salesman's territory. This saves the salesman time in the long run, by having such points as expiration of competitive contracts called to his attention in the proper time, to enable a test of his products or other matters to be taken up, leading to a try for the contract.

Data for Office

The office should have a card file, with cards ruled and spaced to contain the following data, partly taken from the salesman's report and partly obtained from a survey of the territory by the sales manager:

(1): Name and address, buying representative, type of business
(2): Credit limit
(3): Contract renewal or expiration dates.
(4): Estimated consumption data, itemized according to the general types of oils, as for illustration cylinder, engine, grease, wax, special oils. You can become pretty proficient at guessing this, if the data cannot be secured direct from the plant, and it is mighty valuable in figuring how a salesman is making out in a territory, or how much time is waranted in trying to get the account.
(5): Date of each call made, sample left, prices quoted and sales made.
(6): Report data as to when the customer says he will be next in the market.

These cards will start off, more or less "raw", but as time goes on they will become the most valuable asset in your sales department. It has been found interesting and stimulating to the salesmen to run a chart visualizing sales in each man's territory. In order to be fair to each man it is best to use logarithmic paper, or rulings, rather than ordinary evenly spaced cross section rulings. If you draw a line across the top to show the total estimated consumption of industrial oils in a given territory, and then plot each month or week the gallonage sold, you will directly show the percentage gain or loss. As long as the sales continue to gain at a uniform rate the curve plotted will be a straight line with the same slope, constantly approaching the estimated consumption line, or salesman's heaven. Ordinarily cross section rulings for showing percentages of sales increase bring out the facts to optimistically because a sharp upward curve is obtained, even though the percentage of rate of increase is declining.

Then too, these charts, plotted on logarithmic paper, can be fairly compared for several sales districts, even though they are of different size and are giving different sales totals, since percentages are being dealt with. A steady up slant on these charts is the best measure of a salesman's results. A good plan is to post them in the sales office, as competition is a great stimulator.

Maintains a Standard Line

The sixth factor in the industrial oil situation that I have noted is that there are a great number of marketers who do not have a standard line of industrial lubricants, or industrial oil specialities, and depend too much upon matching samples of competitive products.

The sample matching evil is a costly one. It adds expense and, when a salesman accepts a sample to match from a customer as the only apparent way to interest him, then that salesman admits that the man who sold the oil originally knew more about the customer's requirements than he does. Generally, if you match a sample and give a lower price to get the business, the salesman who lost it will come back with a still lower price. This circle continues, with the buyer reaping the profit, until there is no profit left for either seller. It is far better to base industrial oil sales effort on your ability to furnish the buyer with products that will serve him better, and prove these claims by practical tests in use. That kind of business is more permanent.

It is not difficult to get up a standard line of the common industrial oil lubricants, such as steam cylinder oils, engine and machine oils, internal combustion and air compressor oils, and in cases where the marketer serves such trades as the textile, and so on,—special oils, as wool oils.

A price book, with general lubricating conditions classified in a simple way, and the oils suited for each class listed under the proper heading is a big help to the salesman.

In conclusion, there are several suggestions which I would like to make:

First, it would seem to me that, for the standard industrial lubricant field, you gentlemen could establish a series of national brands for industrial lubricants, which would permit you to go after business of large organizations having plants in many sections of the country. It is often the case now that, with the buying office located in say Chicago or New York, and plants in many sections, the buyer prefers to contract for a given brand of say engine oil, or cylinder oils, because he can test out these in one place and cover the whole operation in one contract. It would be practical to standardize a series of industrial lubricants, giving due regard to the properties of the various crude sources from which they are made, and give them a series of standard brands, which any member of your organization could use.

Such an arrangement would enable you to exhibit at the large power and industrial shows, and each member of your organization would benefit.

Second: Some standard form of lubricating engineering service can be worked out by your association, for the benefit of the members, by providing a source of general information on industrial lubricants and industrial oil products. A standard engineering survey form could be worked out, so that the member companies salesman can go through a plant and obtain the necessary information upon which a definite lubricating recommendation report can be based. With standardized lubricants and industrial oils this form would answer all average conditions, and the report, accompanied by a contract or price proposition gotten up in attractive form, would be of considerable weight in gaining the confidence of the plant buyer and his business.

Third: The salesman training problem should be given consideration, with the view to increasing the percentage of men who make good and thus improve their sales effort and decrease sales cost. A suitable course of instruction, available to member company employees, at a nominal cost, and designed to cover the subject of lubricating and industrial oil engineering should be available.

Fourth: The small cost of lubrication in industrial plant operation certainly evidences the fact that any industrial oil product will stand a price that will include good sales engineering service, leading to the best and most productive plant operation.

To get the best economy out of high grade industrial oils they must be properly handled in storage, use, and recovery. It is advisable for every industrial oil marketer to keep advised of the various types of lubricating equipment, filters, storage tanks and oil room equipment, so that he can suggest to his trade economical and efficient improvements, for these all help to warrant the purchase of worth while industrial oils, at a correspondingly fair price.

The whole keynote of profitable industrial oil marketing sums itself into one thing;—sell the service of your product.

THE oil industry must profit by the mistakes made in the gasoline war in South Dakota, if similar situations are not to develop in other districts, Harry F. Brownell, Brownell Oil Corp., Sioux Falls, a prominent jobber in that state, told marketers attending the N. P. M. A. convention at Louisville at the evening session the 17th. The industry is not yet out of the woods there, even though the Supreme Court has ruled the state stations are unconstitutional, he said, because an amendment to the state constitution may overcome that.

Mr. Brownell urged that the jobbers learn these important lessons, that they must heed public opinion and not go counter to what it dictates, and that they establish their prices on the cost to them of the gasoline they sell, which would not leave them in a position they cannot defend, as they were in South Dakota in 1923. He urged that refiners learn the lesson that they must differentiate in their prices to established wholesale distributors and to others who buy an occasional car or so of gasoline.

Lessons We Must Learn from Mistakes Made in South Dakota

By H. F. Brownell
Brownell Oil Corp. Sioux Falls, S. D.

Delivered Before N. P. M. A. Convention, Louisville Nov. 17

THIS subject was wished on me and it was selected by the president of the association, who even wrote the wording, "The Lesson We Must Learn from the Mistakes Made in South Dakota." I am going to start out by admitting that we made a lot of mistakes in South Dakota, and I think perhaps I was the chief offender because I was in a position to do something constructive and intelligent.

The first lesson that I learned from our mistakes in handling the situation that developed there when Gov McMaster stepped in in 1923 was the power of public opinion. I think all of us have got to learn that lesson now for the benefit of what we may have to do in the future.

The power of public opinion is a tremendous thing when it is working against you. It was public opinion in South Dakota that made possible the success of the gasoline war, and it was our failure to sense the trend of public opinion that enabled the governor of South Dakota to all but ruin the oil industry and to make himself politically. It was our failure to grasp this fundamental fact that you can't fight public opinion, you can only lead and influence it. I put this down as one of the first things that we must learn and did learn, I hope.

The people are peculiar. I guess you have found that out by knowing something about your neighbors. They take their political doctrine from the headlines of the newspapers. They do not, in this enlightened age, find out the facts for themselves. They take their political doctrine from what they read that a governor or a senator or a public official said. Because the people have this blind faith in their public officials, these public officials have betrayed the people. They have led them down a blind alley politically and left them there, and the success of the gasoline war is merely an incident in the great trend of events politically in South Dakota and in this nation.

Can't Fight Public Opinion

We must gather this, and we must put it down for future reference, that when the public rises up and demands anything in the way of an economic change, it is useless to fight public opinion. Later in my remarks I am going to discuss the changing of public opinion and the possibility of leading public opinion our way and how it may be done and how we might have done it in South Dakota if we only could have thought a little bit further ahead.

The big outstanding thing we learned, if we learned anything in this fight, was the fallacy of trying to maintain a price structure which does not reflect the open and well known cost of gasoline. It is ridiculous to undertake to maintain a price-fixing policy that does not take into account what any man may buy gasoline for. I realize there are a great many intelligent men in the oil industry that believe in their hearts that the spot market is not the basis for price fixing, that the basis for fixing of retail price is the cost of crude oil, cost of manufacture, transportation, and so on and a fair profit.

That is a logical thing, especially before the public knew the difference. But now, because of the ease with which the politicians are able to turn the people's attention to gasoline, the public knows what the price of gas is and is just as familiar today with the market price of gasoline as you are, and they know what is a fair profit. Don't ever think that the public can't take the price of gasoline as published in the paper and add the freight and the state tax and arrive at what your profit is, based on the pump price.

From today on it doesn't matter whether you believe in fixing the retail price of gasoline on the spot market or whether you believe it should be fixed on crude oil plus various costs of manufacture, transportation, and so forth. It doesn't matter to which school of thought you belong, because from today on the public is going to fix this for you, by the power of public opinion or the power of legislative action.

You are going to have it fixed for you one way or the other, because the public now has discovered a great truth, that all business has a certain amount of profit and that some lines of business have a little too much, and it has a sort of sneaking idea that your business and mine has a little too much. It has been encouraged to think that, has it not, by some of our leading citizens?

So long as the public knows what the spot market is, just so long are you going to be confronted with the necessity for basing your price on the spot market, whether you like it or approve of it. So I say that, if we have learned anything, it is the fallacy of trying to maintain an antiquated price fixing structure and trying to cover up the open market quotation which today is found in the trade papers.

Refiners Don't Support Spot Market

I have been criticized a good deal lately because I took it upon myself to express very plainly what I thought about some refiners. I have no grudge against refiners. Some of the best friends I have in this oil industry are refiners, and good ones, and I do not go out of my way to say mean things about the refining end of our industry; because I can't live if they don't, and, if I am not willing to pay them a profit, there is no chance of my continuing in business. So I am willing to pay a profit, I am willing to pay more than I am paying today for gasoline. I realize I hope that the refiner has troubles the same as we; also that he is honestly and earnestly trying to untangle the present

complicated situation that he has been forced to operate at a loss and that to some extent he has been the helpless victim of circumstances.

My chief criticism of my refiner friends is that they do not intelligently support the spot market. The big refiner who can make gasoline cheaper than the price quoted on the spot market ought to benefit by his ability to do so, and he ought to intelligently support a spot market which in turn will give him added profits by reason of his size, his ability, his efficiency, and so on. Why doesn't he support intelligently the spot market?

Who Broke the Market

Who broke the spot market in 1923? Who sold the governor of South Dakota 20 carloads of gasoline at the lowest possible spot market price? You refiners need not get thin skinned about this. You did it yourselves. You created a market for yourselves, which you said was below the cost of production. Whose cost of production? The Standard Oil Co.'s cost? The Texas Co.'s cost? Sinclair's cost? I get amused sometimes when I hear all this talk about less than the cost of production. The Texas Co. dumped 20 carloads of gasoline on South Dakota in 1923 at 9 cents a gallon, when you and I and a lot of us were paying 14. When the big capable, efficient refiner makes the discovery that he can no longer sell any man that has the money, but must confine his sales to the legitimate outlet of the trade, we won't be able to repeat the trouble we have had in South Dakota, but in August, 1923, any man that could pay for a carload of gasoline could secure the lowest spot market price going. You men who bought hundreds of carloads paid the same price that the highway department paid for one 8000 gallon tank car. There again the great disorder is apparent.

It hasn't stopped with South Dakota. We have made some progress in South Dakota and we now have a little period when we can breathe easily for a few days. During this time we are breathing easy about the state, we are wondering, of course, what the big competitor is going to do now that he has us in this position.

This afternoon the president stated a question two or three times. I don't recall it exactly, but it said something like this: "Where is our present system of price fixing leading us?" I shall say I think it is leading us into one of two great disasters. The present method of fixing prices on somebody else's cost of manufacture is leading us to one of two great disasters. One is state socialism, that is to say the handling of gasoline and oil by the public without profit and for the supposed public benefit. We are going to be led into state enterprise in the oil business, if we continue to ignore the open cost of gasoline.

The other is state regulation as a public utility! You know they are talking in South Dakota today that gasoline is a public utility. I hope you will let that sink in, because this idea will go from South Dakota to Iowa and down across Illinois and back and forth across the land, that gasoline is a public utility and subject, therefore, to regulation by the several states.

The leading editorial writer in South Dakota, who is a tentative candidate for governor at this next convention, expresses himself very plainly time after time that gasoline is a public utility and should be regulated as such. Do you see any menace in that? We in South Dakota are to blame that, today, they are talking editorially of gasoline as a public utility, and we are to blame that you are going to have this trouble in your state.

Why We Are to Blame

Here is why we are to blame: we are a bunch of moral cowards in South Dakota. We had a meeting in Madison, South Dakota, one day in July, 1923, and there were 35 of the most mentally befogged men present that I ever met with, including myself. We sat around and discussed intelligently, I guess, the price of crude oil, and we passed a beautiful resolution saying that crude oil should be reduced in price and thereby get gasoline to the public for less money.

Think how funny that was. There we sat, buying gasoline, (if on the spot market without a contract) on that day for 11 cents, paying a 2-cent tax and 3½ or 4 cents freight. We were getting 26 cents per gallon. We passed a resolution that it ought to come down, but we didn't have the moral courage to go out and put it down. I was the chief offender because I happened to be in a position where, if I had moved, the rest would have moved, too. I didn't dare do it. It hadn't dawned on me what I was leading myself and others into by maintaining a price structure that had outlived its usefulness.

Led to Chaos

I was assuming that some other man's cost for gasoline was a fair basis for my price. I sat there with that assumption and saw chaos stare the oil industry of my state in the face. I didn't have the nerve or the courage to change it when I could have done it. Today, because we didn't dare do what intelligent men ought to have done, we are faced with regulation by the state as a public utility or state enterprise without profit.

Do you know what regulation of a public utility involves? It involves, first of all, fixing the profit the public pays and then it involves with that the net return on the capital invested. If you will read the papers carefully, you will find that the court decisions today have indicated that there might be a reasonable probability that eight per cent is a fair return. I ask you, what are you going to do with a little company in your town with a $5,000, $6,000, $8,000 or $10,000 capitalization, borrowing the balance of the money you need, if allowed an eight per cent profit on the capital? That is precisely what my friend, the editor, in South Dakota proposes.

Gasoline gets into politics easily. People buy gas every day. It isn't something they buy and put away and take out next summer to see how badly worn it is, but they buy it every day. Gasoline has become an easy thing for the politically ambitious, and they are going to climb into office on your business if you don't learn that we didn't know in South Dakota.

What I am trying to do is to point out to you where we fell down in the hope that, when it comes your turn, you will not be so hopelessly unintelligent as we were at the time in South Dakota.

There are certain clearly defined results of the gasoline struggle in South Dakota, and you in any other state must learn specifically what we did not do and what you must do when your turn comes, and I think your turn will come. I think the conservative opinion of this people of ours is not going so rapidly away from these socialistic ideas as you may think, or you may like to see. I think we are still of a radical turn of mind, although I believe the pendulum is swinging slowly the other way. So I think you will face this same problem.

Other States Will Face It

I am going to offer a few suggestions in the light of what we have done. In every state in the Union, so long as there is a free exchange of the commodity called gasoline, we ought to fix our retail price fearlessly and openly on what it costs us to buy gasoline. We should ignore the other man's cost sheet; and consider the price of gasoline to be the lowest price at which any number of people may be able to buy it and that we fix our price by adding our freight, our tax, whatever it may be, and a fair profit. I hope you understand fair profit doesn't mean 12 cents a gallon.

If we don't dare to do that, there is no chance of our ever leading public opinion away from state participation in your business. I speak now with a considerable knowledge of public opinion in my own state.

Just now there has come out a great plan of maintaining a margin on gasoline big enough to grant price concessions to big users. One of the most disastrous things that ever happened in this business of mine, I think, is the present plan to rebate or refund a big user 2 or 3 or 4 cents a gallon and maintain a price spread big enough to do it and still leave a profit. Public opinion is made by the many small users and not by the few big ones. The big users of gasoline can understand your position. He knows you must have a profit and

that you have overhead. He is in a business of some kind, he appreciates those things. If you offer him gas for 2 cents less a gallon, why should he worry. He is getting his cheaper, but here is the man buying 2, 3 or 4 gallons of gasoline at a time to run a broken-down flivver. That man composes the many and he makes public opinion and he doesn't like the idea of paying a spread big enough to enable you to rebate the big user.

I do not go on record now as criticizing the Standard for the now well known and generally disliked, I think, plan of quantity rebate. It may be sound economically, and you may believe that this is a proper move. Personally, I think it is the most disastrous thing ever undertaken in the history of price fixing in this industry since I have been a part of it.

The public will control the price of gasoline in one of two ways; by the force of public opinion, or by legislative act. I am going to come to the question of legislation and then I am going to be through. Before I do that, here are one or two other lessons I hope we will learn.

If we had begun in the very beginning to fight this thing intelligently, if the Standard had spent half the money they are now spending in advertising in South Dakota to influence public opinion and if they had told the public the truth at that time, we wouldn't have had today what we have in South Dakota. Because, after all the public can understand plain English. We didn't dare tell the truth in South Dakota. The governor knew it and he played on the people's emotions like a man plays on a violin string, because we didn't dare come back. How could we? What did we have to offer when he said gasoline cost 9 cents a gallon and sold for 26.

When the legislature of your state passes an unfavorable law affecting your business, I recommend (some may differ with this) that you take it immediately into the highest court in your state and find out first if they can do it or not. Two years ago if we had taken the governor into the South Dakota Supreme Court on the same complaint that we used recently, he would have been out of the gasoline business in 30 days.

So, another time we were not intelligent was when we didn't dare stand up for our constitutional rights in South Dakota, take them into court and have the court determine whether or not what the state was doing was proper under the state constitution. If we had gone into court immediately and asked for an adjudication of the matter, asked for our plain constitutional rights as American citizens, we would have received them. We didn't do it. I hope you don't make that mistake.

Here is something that may be of interest. The people in any state are supreme. It is a trite, but, nevertheless, a true observation. If the people wish to go into the gasoline business, or any other business there is nothing in the fundamental law of the land which will prevent them from so doing. Let us get that straight in our mind when we go into this court decision question.

The reason I am going to take your time on this court decision question is that half a dozen men have said to me today, "Well, I suppose you feel pretty good now that you have got this thing settled in South Dakota." The average man thinks, now that we have a decision, it solves the problem in South Dakota. I want to point out by reading excerpts from the court's opinion that the question has not been definitely disposed of, not by any means.

The Court Decision

Here is what our court said: "There is nothing essentially different in the business of retailing gasoline from that of any other commodity, and, while it may be conceded that gasoline under present economic conditions is a necessity, there is no reason why it may not be retailed by private enterprise. There is no need of the exercise of the right of eminent domain. It is not contraband, as is intoxicating liquor and no governmental restrictions are placed on the dealing in gasoline as such. Private persons have as much right to engage in the sale of this commodity as in the sale of any other useful or necessary article. We are satisfied that the state may not enter the business of selling gasoline and levy and collect taxes to conduct such business, unless, as suggested by the defense, that is the state gasoline board, that they may do it under a certain article in our constitution."

They refer now to amending of the state constitution, just what they are doing in your state. Every session of the legislature is proposing a change in your constitution, and these changes are invariably suggested, proposed and fathered by men who are tinged with the doctrine of radicalism. They do it for the purpose of making fame for themselves for a future political purpose. They have amended your constitution and suspended its action by legislative enactment time after time, until I'll wager the men who wrote your constitution would hardly recognize their handiwork, so much has it been changed by amendment and by legislative act.

We have fixed our constitution, but our state says that appropriation of money for anything but a public purpose is not sound public policy in South Dakota. But here is the danger and this is why we haven't settled the case. The court says they will not pass on a question as to whether or not the state may pass a law enabling them to engage in this business, and you will have that to contend with in your state. If the state wants to go into the gasoline business, if it passes a proper law or amends the constitution to provide therefor, you can't stop it. There is just one hope and that is the power of public opinion, and your ability and my ability to lead public opinion back to the fundamental ways of our fathers.

We can only get the people back to the old time honored method of private business enterprise by carefully pointing out the trend of the times. In 150 years we have become the greatest nation the world has ever known, and our people have become the wonder of the age. We are prosperous, we are wealthy beyond all dreams that men ever had of material prosperity. We have labor at high wages, we have an abundance of food we have an abundance of everything the material man can want, and in 150 years of private enterprise we have become the wonder of the world.

Would Try New Doctrine

In every state, and particularly in ours, there are men who would now ask us to leave this path and try out the new doctrine, the doctrine of community enterprise, and transacting of business by the public for the public good and not for private profit.

You are confronted today with a choice of fighting for the preservation of our old principles or sitting supinely by and watching the people try out the communistic plan. We must be awake to this and we must go into every civic organization in our town and we must preach this gospel and we must point out this menace that, if these men, the merchants in your town, the professional men in your town, the great mass of the people that have more than a bare living desire to continue and perpetuate the American system of private enterprise, they must be ready now to stand up and fight for it. That is the most effective thing you can do, point out the danger of the trend of public opinion toward communistic enterprise and away from the time honored method of private business for a private profit.

There is no relief in the courts. You needn't hope to go to the United States Supreme Court for relief in the matter of state business when they start in your town, you can't get it there. There is no use in appealing to the high court in the land to prevent the state in which you live from doing what it wants to do, because the people may do as they wish in this nation if they just decide to do it.

I hope somebody has learned this lesson. I hope our friends we buy our gasoline from have learned this one, that they must adopt this policy of distinguishing, differentiating between legitimate and illegitimate outlets for their gasoline; that they must draw a line which will definitely divide the legitimate jobber in gasoline from the man who merely buys a load of gasoline because he sees a chance to slip in with it and do something smart. I want them now to learn this lesson from the disaster in South Dakota, that if they don't want to repeat this experience, they must quit selling gasoline to these fly-by-night institutions, state departments, and so on. If the governor of South Dakota hadn't seen one invoice for one carload of gasoline sold to the state department of highways, we never would have had a gas war.

The oil-electric locomotive that showed such remarkable performance.

Tests Indicate Oil-Electric Locomotives May Replace Steam Type

By A. E. Heiss
N. P. N. Staff Writer

WASHINGTON, Nov. 19 DISPLACEMENT of coal and steam on railroads by oil and electricity within the time of this generation, it is suggested, has been made not only possible but almost compulsory by the development of the oil-electric locomotive. Interstate Commerce Commissioners have received unofficial reports from experiments that have been conducted by the Central of New Jersey with such an engine at its Jersey shore terminals, in the handling of cars on and off floats used in getting cars to and from Manhattan and Long Island.

In six days an oil-electric handled 431 cars to and from car floats in 61 hours and 50 minutes, at a fuel and lubrication cost of $11.90. In the same week an ordinary coal-burning locomotive handled 430 cars to and from the same number of car floats in 75 hours at a fuel and lubrication cost of $73.35. Each engine attended to 26 car floats. Other conditions were made as nearly alike as possible.

According to the reports, the oil- electric delivered approximately 25 per cent of the energy from the fuel to the driving mechanism, while the steam locomotive delivered from five to seven per cent.

The oil-electric used fuel only while it was working. The steam locomotive for 69 hours it was not working, burned whatever fuel was necessary to keep its banked fire going. The oil-electric used fuel oil, of what grade was not specified. The experiment was conducted by the Central of New Jersey, the American Locomotive Co., the General Electric and the Ingersoll-Rand companies. The three manufacturing companies are sponsoring the new type locomotive. The last mentioned company claims that orders for that type of locomotive have been given by the Central of New Jersey, the Lehigh Valley, Baltimore & Ohio, Long Island and Lackawanna.

Engine Drives Generator

The oil-electric is a moving electric power plant. The engine is an internal combustion Diesel type, using fuel oil to drive a generator connected with motors attached to the axles of the engine. The general idea has been in use for some time on locomotives for special purposes. However, the thought of the manufacturers is that the idea can be applied to machines for general use on railroads, particularly for yard work. Yard engines frequently have much idle time but coal must be burned to keep up steam. There is no such necessity for the creation of electricity which drives the wheels of the oil-electric. There is no waste of fuel while the locomotive is waiting for something to turn up for it to do.

Attention of railroad managers has been directed to the oil-electric by the enormous increase in the cost of fuel since the war. In 1923 they spent $551,518,891 for coal, of which $17,090,800 was for hard coal. The hard coal carrying roads are the ones that spent money for that sort of fuel. They bought it at about the same price per ton as they would have had to pay for soft coal. Inasmuch as the hard-coal carrying roads are also owners of about 65 per cent of the hard coal production, use of hard coal put no strain on them other than a small reduction in the profits they could have made had they sold it to the general public. The coal bills for all years since 1919 have been high.

In 1924, however, there was a sharp drop in soft coal prices. The railroads

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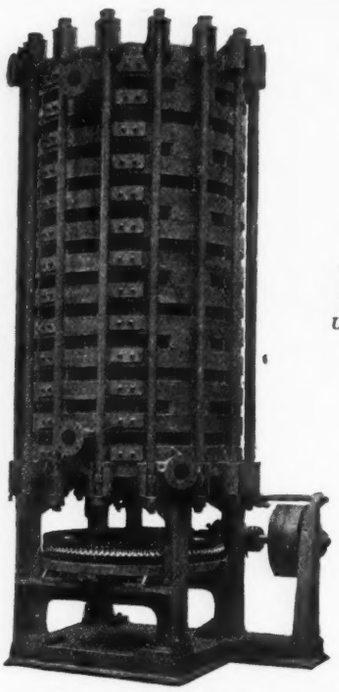

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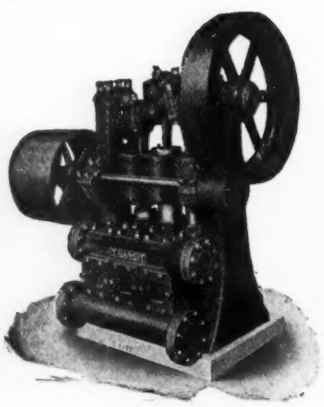

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spent only $372,030,966 for soft coal and only $13,936,270 for hard coal. In that year the unit prices of fuel oil bought by the railroads went up and the consumption went down. Notwithstanding that fact, however, those interested in the oil-electric went ahead with the idea that even with fuel oil prices multiplied by three, oil electrics would be cheaper than the steam locomotive and that the railroads that have been using fuel oil would be particularly interested in the oil-electric which proposed to use fuel oil in the most economical manner, that is for the generation of electricity rather than steam.

Enthusiasm on the part of promoters, of course, suggests the almost complete elimination of fuel cost as a great factor in the cost of transportation. Theirs is what is known, by the courts, as the enthusiasm of the seller, a thing that is recognized, and discounted in judicial proceedings.

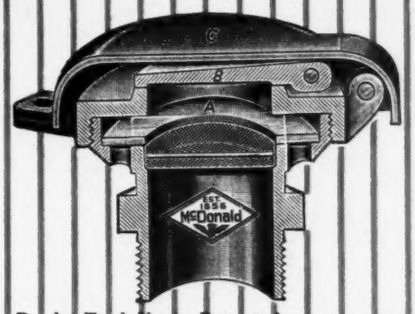
If the new type locomotive should prove successful, in a mechanical sense, its adoption would not be hindered by the great obstacle that has stood in the way of the electrification of the railroads, namely, the enormous capital expenditure required to convert from steam to electricity. Conversion of that sort would mean the scrapping of thousands of steam engines, the erection of many and enormously expensive power houses, the installation of wires both overhead and along the track. In other words, the expenditure of billions. The public, it has been the belief of both railroad managers and financiers, could not be induced to part with enough money to bring about the conversion of even one large system, let alone 20 such systems, which constitue the backbone of United States railroads.

There has been no doubt about the success of the electric locomotive or the operation of enormous trains by their use, at a great saving, but no one has been able to point out the spot where might be found the immense pot of gold needed to bring about conversion.

Conversion Not Expensive

No pot of gold will be needed to bring about the discarding of the coal burning steam locomotive, if the oil-electric can be shown to be a mechanical success. Each oil-electric carries its own power plant, the same as the steam locomotive. Oil-electrics and steam locomotives can be operated at the same time over the same tracks, without any addition to the investment in the way and structures for the accommodation of the oil-electric. The fact that three big industrial concerns are backing it is taken to indicate, by the government officials interested, that there is enough promise in it to warrant serious experimentation. The New York Central, for several years has had a locomotive that is of the same fundamental idea, that is of an electric locomotive that carries its power plant with it, for use in switching on Manhattan Island.

The obvious advantages are the fact that no fire needs to be kept up to en-



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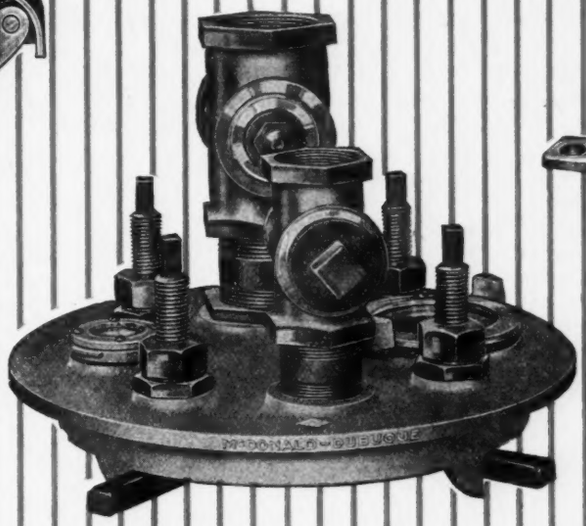

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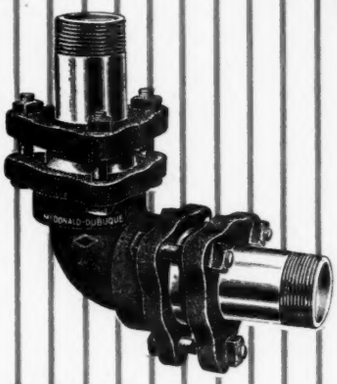

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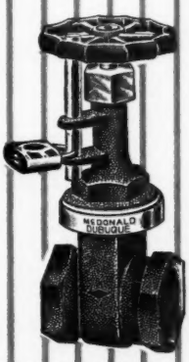

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able the oil-electric to begin delivering power the minute it is needed. A steam engine must have fire enough, at all times, to convert the water in its boiler to a working head of steam within a minute or two; that the electricity is delivered to the motor without the use of any expensive system of wires; and that, in the form of electricity a larger percentage of the energy is delivered to the driving mechanism.

If the oil-electric should be found suitable only for yards work and the saving should be only 25 per cent instead of the enormous percentage suggested by the two costs of $73.35 for the steam engine and $11.90 for the oil-electric, the saving, in 1923 would have been about $42,000,000, or enough to buy 840 engines at $50,000 each, assuming of course that all yard work would be done by oil-electrics. Any engine that is good enough to do yard work, however, is good enough to haul freight trains, if not passenger trains.

Roughly speaking, the freight service constitutes 70 per cent of the cost of operating a railroad. On that basis, the freight engine fuel cost in 1923 would have been $339,000,000. One fourth of that, the estimated saving of oil-electrics for yard and freight service would be about $84,870,000, or enough to buy about 1700 oil-electrics.

On a showing of a saving of 25 per cent, it is believed, the country, quickly, would subscribe for bonds and stock issued by railroad companies to raise funds for conversion from coal to oil as the fuel for doing the country's freight transportation. As a matter of fact very little, if any, new capital would be required because the railroads set up depreciation accounts for the replacement of engines as they wear out and such funds would be available for that purpose.

Seeks Assistant Gas Inspector

WASHINGTON, D. C.—Applications for assistant gas inspector to fill a vacancy in the Indian office of the Department of Interior for duty at the Osage Indian Agency, in Oklahoma must be in the hands of the United States Civil Service Commission by Dec. 15.

The entrance salary for this position in the Indian office is $1,860 per year, including lodging, fuel and light. After six months, advancement in pay can be made up to $2,400 per year.

The duties of the position are to inspect meters, check measurements and constants, take open flow of gas wells and supervise physical tests to determine the productivity of casinghead gasoline.

Full information and application blanks for examination may be obtained the board of the U. S. civil-service examiners at the post office or customfrom the U. S. Civil Service Commission, Washington, or the secretary of house in any city.

Claims Waterway Improvement Will Help Traffic Congestion

By Special Correspondent

WASHINGTON, Nov. 23.—Herbert Hoover, secretary of commerce, as a militant advocate of improvement of the rivers and other internal waterways, appears as a prophet to declare that the invention and use of the internal combustion engine, has created a situation in the matter of transportation which can be more expeditiously and economically met by spending $100,000 for river work than to undertake to enlarge the terminals of railroads, in the congested centers of population. He envisages the Mississippi as a system of transportation more than 9000 miles long, consisting of one north and south trunk line, from New Orleans to Chicago, 1500 miles, with an east and west trunk line, from above Pittsburgh to Kansas City, 1600 miles long.

At present he sees it as a system with disconnected segments, incapable of taking care of the traffic that soon will not find room on the railroads because, as he sees it, they cannot be expanded in their terminals to take care of the 40,000,000 increase in population that will take place in this country in the next quarter of a century.

In addition to the two trunk lines, he thinks of the Mississippi system as having laterals of about 6000 miles, also improved in spots and needing to be connected so as to restore the waterway system that was in existence before the coming of the railroad. The coming of the railroad, he points out, caused the almost complete abandonment of water and highway transport. Now he sees the railways nearly at the top of their development needing the help of both highways and waterways and an end to the destructive competition that characterized the development of the railroad and the decadence of the waterway. Then the waterways accommodated vessels of three feet draft. Now special type barges plying in channels of nine feet depth can and will afford the cheaper transportation for the heavy products of the soil.

These and other thoughts along the same line he expressed in an address at Kansas City to civic and agricultural organizations which had asked him what he thought about improving the Missouri between St. Louis and Kansas City, on which there is some transportation now but on which Kansas City men have thought for a long time there should be more.

Modern forms of development, he said, had made water transportation the cheapest of all for many types of goods. Broadly, he said, 1000 bushels of wheat could be carried on the sea for 1000 miles at a cost ranging from $20 to $30; by the modern Mississippi barge service for $60 or $70; by lake steamers for $20 to $30 and by railroads from $150 to $200. In competition with lower standards of living in other countries, American farmers and manufacturers had to avail themselves of the cheapest forms of transportation.

Commenting on the claimed failure of inland waterway transportation, he suggested that if trunk lines were cut, as are the main trunk lines of the Mississippi system, they would do no better than the rivers. Modern appliances for loading and unloading, Diesel engines using fuel oil for the generation of power and the connecting up of the segments of the system would solve the problem of transportation for the increase of 40,000,000 in population in the next 25 years. The traffic of the increased population, he insisted, would grow faster than the numbers because the motor truck and the motor bus expedited business. He pointed out that traffic breeds traffic and that while the truck and the bus had much business, the railroads, for three years on end, have hauled the highest tonnage ever known, each year's business being greater than that of the preceding year. In part he said:

"Before these services can be effective we must make our waterways into full transportation systems by joining up the broken links. Of the 3100 miles of main trunk streams, three great links of about 1100 miles remain to be finished; from Kansas City to St. Louis, from Cairo to Chicago, and from Cincinnati to Cairo. Of our laterals, 5200 miles have been improved to various workable depths, and 744 miles are yet to be improved. Certainly we could complete the trunk system for under $65,000,000 and the urgent work on the laterals for another $35,000,000—a hundred million in all.

"I cannot insist too strongly upon the necessity of this connection, and its analogy to integrated railways. If we were to break an important railway system into segments with intermediate stretches of, say, narrow-gauge track at points between Chicago and St. Louis, between Kansas City and New Orleans, between Pittsburgh and St. Louis, and so on, that system would make a very poor showing; yet the Mississippi system is today broken into half a dozen segments. Despite all of this, if at this moment we add up the total annual tonnage moving on the 2000 miles of separate segments of the main Mississippi system so far completed, and compare it with the Southern Railway of 7000 miles all connected, we find that these waterway segments carry annually 41 million tons, as compared with 45 million tons by this railway. Perhaps a little nearer comparison is the Central of

Georgia Railway of about 2000 miles, which carries only one-fifth the tonnage of the disconnected 2000 miles of main Mississippi waterway system. If a waterway system of stretches and patches can make such a showing as this, we need summon no special courage to complete it.

"I have said that our great railway gateways and terminals already show signs of congestion from a traffic that has grown from 114 billion ton miles to 338 billion ton miles in the last 25 years. At one-half this rate of gain, in another quarter of a century, we shall need to provide an expansion of facilities to handle at least 525 billion ton miles. Our present railways will be wholly inadequate to meet that burden. The expansion of railway terminals to accommodate the growth of the next quarter of a century will be accomplished at enormously increased costs, due to the increase of land values in our cities. And the waterways, because they furnish continuous terminals spread along the whole waterfront of our towns, go far to solve the problem of increased terminals and crowded streets.

Cheaper Than New Railways

"Furthermore, if we would provide for the 40,000,000 of increased population that this quarter of a century will bring us, we must either build more trunk lines of railways in the states which can be served by these waterway systems or we must improve our waterways to take part of the burden. I believe any study of the comparative capital outlay will show that to duplicate this waterway system by rails would probably cost three times as much as to complete the waterways which will move the goods more cheaply. Nor is this in anywise a statement that our railways must not be under constant development, for they obviously reach scores of millions of people that are untouched by the waterways and perform many services that our waterways cannot undertake.

"During these many years passed, there has been an unceasing battle between the proponents of rail and waterborne traffic. No one can read the debates over the last half century without feeling that the dominant argument for improvement of our waterways has been to club the railways in the matter of rates. On the other side, no one can study the competitive tactics of the railways against the waterways without conviction that at times they throttled water transportation by reducing railway rates below what they themselves could in honesty maintain. Regardless of the merits or demerits of the contentions, there is today no excuse for continuing this battle between the railways and the waterways, for we are faced with a period when both are needed. We have had great battles over joint rates, but if we have a real system of internal waterways, this problem will settle itself, for the day will come when the railways themselves will be seeking them."

Cost Figures Show Little Saved in Drives for Cheap Gas

CLEVELAND, Nov. 20

TO BARNUM is attributed the assertion that one is born every minute. It was years ago when the circus man estimated the increase in the number of gullible people. The country was small then and South Dakota was still a part of the great uncharted northwestern territory. Barnum's estimate was before the day of the motorist who believed what the politicians told him. One a minute means 1440 a day but one automobile factory turning out close to 8500 cars a day which might enable the gullibility rate to be increased.

But whether the number of suckers is increasing at the same rate or at a greater rate than in Barnum's day, a great many motorists believe they are saving money by driving a mile or five miles out of their accustomed paths to buy gasoline at a saving of 1 or 2 cents per gallon. If one, Royal S. Kellogg, writing in Nation's Business (August, 1925) is to be believed, a motorist must get a discount of more than 2½ cents a gallon on the average of a five-gallon purchase or his trip will not have saved him the extra drive of one mile and he must save up to 5 cents per gallon if he has to drive two miles out of his way, a mile going and a mile returning.

Mr. Kellogg kept tab of operating expenses on three cars he drove from 1915 to 1925. The first car driven 14,000 miles from July 31, 1915, to Feb. 1, 1918, cost an average of 11 cents a mile to operate during the period covered of which the gasoline cost 1.5 cents per mile. This car was priced at $792.

The second car was driven 13,494 miles from April 19, 1918, to June 30, 1921, and the average cost was 18 cents per mile, of which the gasoline cost 1.7 cents per mile. This car was priced $1,379.74.

The third car was driven 33,100 miles between June 30, 1921, and March 13, 1925. Average operating cost was 12.7 cents per mile of which the gasoline cost 2.1 cents. This evidently was a much larger car as its price is given as $2,238.22.

The average cost of operation during the almost 10 years was 13.9 cents per mile, according to the Standard Oil Co. of Indiana which has published Mr. Kellogg's expense accounts in its series of advertisements setting forth its position to the people of South Dakota. In the advertisement the Indiana company comments as follows:

"Let's assume that you had to go a mile out of your way to get gasoline and that you wanted five gallons, which is the average purchase, according to our records.

"By going that mile, you would automatically add more than 2½ cents a gallon to the price of the gasoline.

"Thus it is shown that while the operation of a service station adds something to the price of gasoline, by reason of slightly increased overhead for the oil companies, yet its existence, and particularly its convenience, is actually a money saver for the motorist.

"That is the main reason why we locate our service stations on or near a main travel highway, and, frequently, on prominent corners.

"It is just one phase of the broad and comprehensive service rendered by this company to the people of the Middle West, which has earned for the company, the respect, the confidence and the esteem of the people generally.

"We suggest that you reflect on the convenience of a Standard Oil service station, and what it means to you in dollars and cents, computated at 13.9 cents per mile, when you consider giving socialism your seal of approval by buying 'political gas' of uncertain and unknown quality at the Fair Grounds, at the jail, or at some other out of the way place."

In another advertisement bearing the caption "Is the Standard Oil Company (Indiana) in Politics?" the company challenges anyone to present any concrete evidence that it ever entered any political campaign in the state. The company states that it is seeking only a square deal in the state, that it has property investments of $2,500,000 in the state, that it pays taxes and employs people, and has been a part of South Dakota since 1889. The advertisement concludes:

"We repeat and we reiterate, that this company is not in politics!

"Business and politics will not mix.

"The best and most eloquent evidence of the truth of that statement is that the state of South Dakota has engaged in several lines of commercial business —and, today, it has a debt of $62,100,000 which loads the people of South Dakota with the highest per capita debt of any state in the nation.

"Truly with the expansion of socialism, the taxpayer of South Dakota pays—and pays— and pays."

Bargain Counter Gasoline

CHIPPEWA FALLS, WIS., Nov. 20.—A record low retail gasoline price for the season was reached here this week when a price war developed some spite features and local dealers posted a service station price of 8½ cents a gallon. Motorists came to the cheap stations with tubs and barrels and all manner of basins and carried the material away to store for future use.

Contact Filtering of Lubricating Oil Successful at Ohio Refinery

By Paul Truesdell
N. P. N. Staff Writer

LIMA, O., Nov. 20

REFINERS generally, seeking better methods for the manufacture of lubricating oils to go along with the improvements they have been making to a surprising extent in the distillation, fractionation and treating of light products, have been much interested for some time in the possibilities offered by continuous filtering of lubricating oil with fullers earth—the so-called contact filtering process.

Technologists in the laboratories of many refineries over the country have spent a great deal of time and study in attempts to work out such a process that would be workable and profitable on a commercial scale in their plants. Probably a good many of them have succeeded and have such processes in successful operation.

Some of the California refiners, particularly, it is understood, have developed very successful contact filtering methods and have been operating them for some time. There may be, and probably are others, but the fact remains that none of the refining companies that have solved the problem have seen fit, so far as we know, to let their chemists and engineers pass on the information concerning the process and its operation to their professional brothers in the industry at large.

Information Mostly Vague

There have been some papers put out on the possibilities of contact filtering, but all of them that we have seen have been rather vague. Mostly they have confined themselves to the discussion of principles and theories rather than the definite, specific information that would make it possible for other refiners to put contact filtering in operation in their plants. Also, there are some refiners who have tried out a contact filtering system, have failed and have abandoned the idea entirely.

There seems to be a general idea, at least it is often expressed, that one reason for the marked success of contact filtering on the Pacific coast is that those refineries are close to enormous deposits of the diatomaceous earth known as Death Valley clay, which is available to them in unlimited supply and at comparatively very low cost. It is the opinion of many that contact filtering, where fullers earth from the usual sources would have to be employed, would be to expensive a process to be practical.

This story is to describe the contact filtering process as it has been developed and is being operated at the plant of the Solar Refining Co., Lima, O., with results highly satisfactory to the management. Florida fullers earth is used in the process, which seems to dispose of the belief that fullers earth is too expensive to be practical.

The Solar Refining Co. was one of the components of the old Standard Oil Co. and since the dissolution has been a separate independent company. It has capacity of about 8500 barrels of crude a day on a cleanup basis. For many years a single company took practically all the products made at the plant.

But the fact that the Solar had an assured outlet for all its products has not caused the management to lie back and take it easy. They are working the plant over. It is one of the real old Standard plants, having been built in 1886. By degrees they are bringing the refinery to a stage of development in line with the newest refinery practice there is, both in construction and operation.

They are doing the work step by step, like almost all of the refiners, using the old equipment wherever possible and adapting the new stuff to fit in to as great an extent as possible rather than scrapping the old stuff and starting from the ground up.

The contact filtering method is only one of the betterments that are being or have recently been effected at the plant.

The Men Who are Doing

F. T. Cuthbert is president of the Solar, N. D. Keys is vice president in charge of sales, and J. R. Cuthbert, son of the president, bears the title of assistant to the president.

The senior Cuthbert has had years of experience in refinery operation, Mr. Keys is willing—and able—to find a profitable market for all the stuff the refinery can make and the junior Cuthbert, who spent much of his spare time even in high school days about the refinery yard and laboratory, is a special student in chemical engineering from Renssalaer Polytechnic school.

About a year ago, these men decided to improve the quality of the lubricating oil manufactured at the refinery—to make a better article that would command a better price. The refinery had for years been making an oil by the sulfuric acid-caustic soda treating process. This, of course, was inferior to a filtered oil and brought an inferior price.

The refinery did not, and does not, make cylinder stocks, the crude on which it is operating, Lima and Illinois, not being suitable for the purpose.

Young Mr. Cuthbert and Frank Hawkins, chief chemist of the company, began studying filtering processes. The contact method seemed to them the best from all standpoints and they decided to adopt it. There were a lot of problems to be solved in connection with it and there was no guide to be found for their solution.

But study and experimenting did the trick and for several months now the process has been operating smoothly, and turning out oil that is of premium quality.

The Filtering Equipment

The new stuff necessary to put the process in operation consisted of:

One No. 12 Sweetland filter.

Three vertical 175-barrel cone bottom tanks fitted with steam coils for heating and mixing.

Two 10-horsepower electric motors.

One 25-horsepower motor.

Two centrifugal pumps.

One Wilbley sand pump.

A simple air conveyor for the fullers earth.

Water sprayed cooling coils for reducing the temperature of the finished oil. The mixing tanks were built by welders in the refinery's own boiler shop.

In describing the manufacture of the company's contact filtered oil it is well to begin with the crude. This is run down according to general refinery practice, the benzine, kerosene, gas oil and distillate cuts being taken off. The Solar's is one of the few refineries which do not find it necessary to crack the wax distillate in order to convert the wax in the distillate from the amorphous to the crystalline state so the presses can get hold of it.

The wax distillate is run to the presses uncracked and the wax extracted. Then the wax free distillate goes to the reducing stills. These are four in number and operate on the continuous system instead of batch as is commonly found in lubricating oil stills. The oil is run in the reducing stills with plenty of open bottom steam to prevent cracking and keep the flash and viscosity up.

The oil comes from the last still of the reducing battery with a viscosity of about 365 seconds Saybolt at 100 F. From the reducing stills, the oil goes into a conventional lead-lined agitator where it is treated with sulfuric acid in the proportion of 20 pounds of acid to the barrel of oil. Acid of 66 Be. and about 93 per cent acidity is used.

One of the most important requirements for the success of the contact filtering process as they have found at the Solar plant is that the oil be as nearly free as possible from acid tar or pitch before it goes into the filter. Extraordinary precautions are taken to insure this. After the sludge has been drawn off from the bottom of the agitator, the oil stands in the agitator for 24 hours. Then it is transferred to a settling tank, which is similar to an agitator, having a cone bottom, where it settles for another 24 hours.

Getting Rid of the Tar

When the contact filtering system was started at the Solar plant it was the practice to pump the oil from the settling tank into the mixing tanks from the bottom of the cone. This took too much tar over with the oil into the filtering system and made the color of the finished oil unsatisfactory.

To get rid of this tar, a swing line was run into the agitator and adjusted to take suction just above the cone. When the oil has been pumped out down to the base of the inverted cone, the contents of the cone, perhaps 10 barrels, containing the pitch, is drawn out and returned to the agitator for treating with the next batch.

The contact between the oil and the fuller's earth begins when they are charged together into the mixing tank. The fullers earth used is Floridin, of 200 mesh, almost as fine as flour. It is untreated and even unroasted.

The fullers earth charging equipment consists of a small cone bottom tank with an air tight manhead and an air-line leading into the bottom. From the tip of the cone a pipe runs through a manifold into the top of each of the mixing tanks.

The oil charging lines run into the tops of the mixing tanks also and the clay carrying pipe enters the tank inside of the larger oil charging line. The clay line ends flush with the underside of the roof of the tank. The oil pipe projects considerably below the roof so that the clay entering the tank is discharged directly into the oil stream and carried with the oil down into the tank.

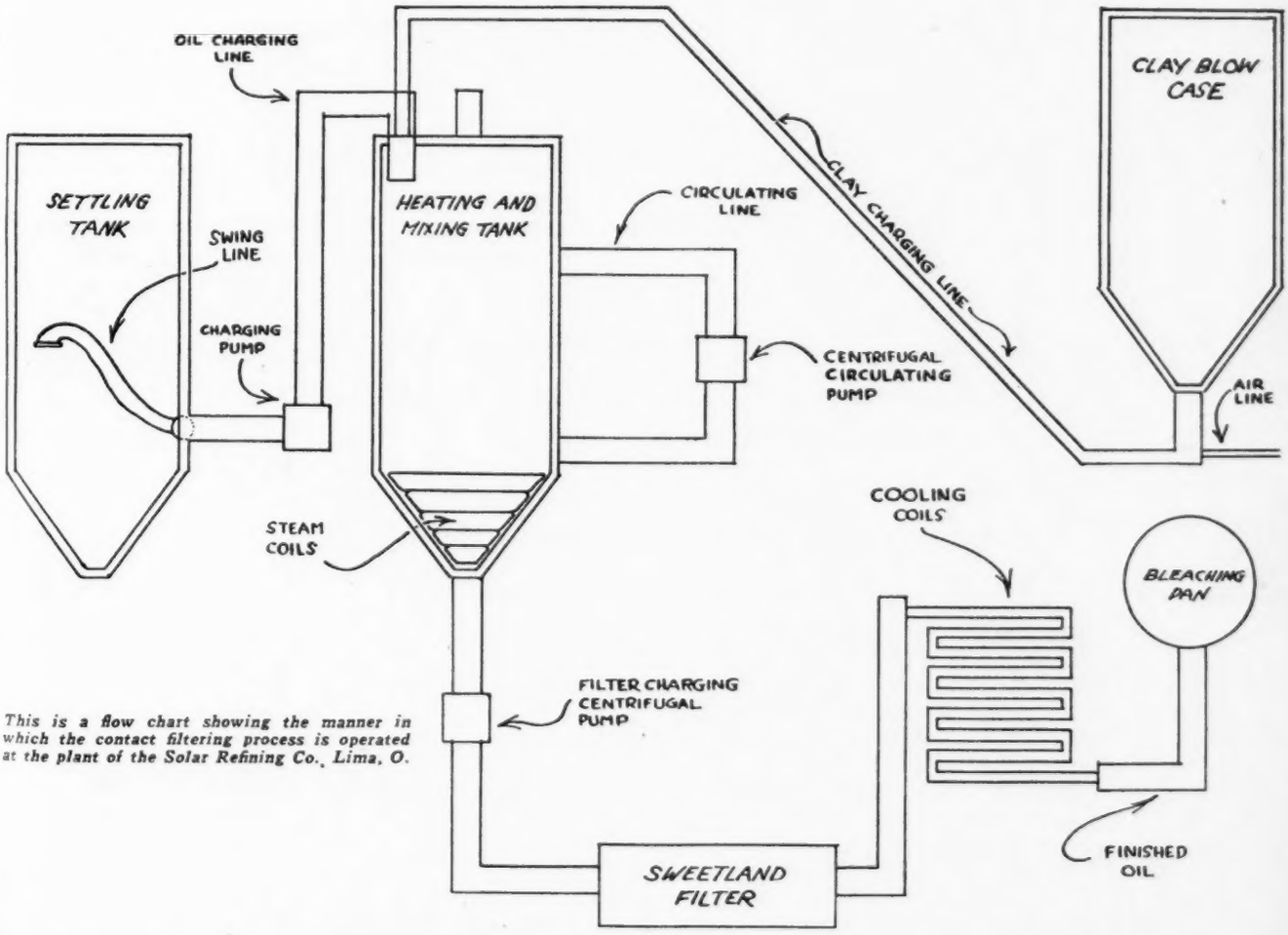
A one-inch air line leads into the clay discharge pipe at the bottom of the cone of the air tight tank. The clay is dumped from the bags into the tank and the manhead closed. Then the air is turned on at a pressure calculated to deliver into the tank while the oil is being pumped in, clay in the proportion of four per cent by weight of the oil. This figures out at the Solar plant, to 12 pounds of clay to the barrel of oil.

125 Barrels To a Charge

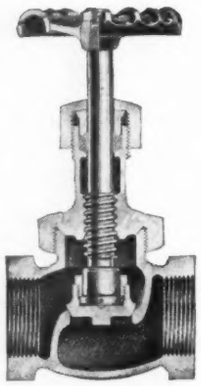
The mixing tank is charged with a batch consisting of 125 barrels of oil and 1400 pounds of clay. A batch of this size is used because the capacity of the filter for one run, to get the best efficiency, is 1500 pounds of clay. Each mixing tank is fitted with a circulating line hooked up with a motor driven centrifugal pump. The suction end of the line enters the tank just above the cone bottom and the inlet end enters through a tangential fitting like the vapor inlet line in a Gray tower for the treating of pressure distillate in the vapor phase which has been previously described in National Petroleum News.

When the tank has been charged, steam is turned into the heating coils in the inside of the cone and the centrifugal circulating pump is started. The temperature of the oil is brought up gradually to 240 F. while the mixing of clay and oil through the pump goes on. The temperature is watched by means of a thermometer inserted in a well at the bottom of the cone.

Those who devised the contact filtering system at this plant believe that the results they get are largely due to the use of centrifugal pumps instead of pumps of any other type to do the mixing. The advantage of using a fine clay as compared with a coarser clay, of course, is that the more finely divided the clay the greater the amount of adsorptive surface offered. But the efficiency of the fine clay is governed by the degree to which all of its surface is



This is a flow chart showing the manner in which the contact filtering process is operated at the plant of the Solar Refining Co., Lima, O.



Sectional view, Fig. 750, screwed, Jenkins Bronze "Marine" Valve.

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brought into contact with the oil. Unless the oil and clay are very violently agitated the clay would be likely to form lumps. In going through the centrifugal pumps, the mixture is agitated with great violence, shredded and splashed about until a very intimate contact is obtained. The fact that the oil being circulated by the pump is thrown into the tank at a tangent, also helps the turbulent effect by giving the oil in the tank a swirling motion.

Fed to Filter at 240 F.

After the oil has reached 240 F. which takes about three hours, the circulation is stopped and another centrifugal pump, driven by a 25 horsepower motor, feeds it into the filter under a pressure of about 45 pounds to the square inch. The filter is fitted with 36 plates of Monel metal of very fine mesh. The oil is fed into the bottom of the filter and channels along the bottom plate distribute it among the filter plates.

The plates retain the clay while the clear oil is forced through, coming out at the top through a number of pipes each fitted with a glass nipple or look glass, into a common header, as finished oil. From the filter the oil goes through the water cooled coils where its temperature is reduced to about 175 to 180 F. and then it is run into large open pans in enclosed buildings. This exposure in open pans gives an opportunity for the slight amount of sulfur dioxide to escape.

Each of the mixing tanks is fitted with a 12-inch open vent line in the top. The purpose of this is to allow for the escape of the moisture which is in the fullers earth because it has not been subjected to roasting before use. As the temperature of the oil in the mixing tank increases, the moisture in the clay is turned into steam and it can be seen issuing from the vent while the mixture is being heated. It takes from 30 to 40 minutes to run a batch of 125 barrels through the filter. When the pumping of oil into the filter is stopped, air is turned in at the top to drive out the oil remaining in the clay at the plates, the look glasses making it possible to tell when all the oil is out. Then a stream of air is turned in at the bottom to throw up onto the plates the clay that may have fallen to the bottom, and to dry out the cake.

The bottom half of the filter is hinged onto the upper half along one side while it is held in place on the other side by a number of heavy bolts which are easily released by turning a handwheel. The bottom of the press is then opened by the simple operation of a combination of a hydraulic plunger with a counterbalanced arm and the cake drops out into a concrete hopper beneath.

The cake is so dry that a small amount of dust flies when the press is opened. The small amount of clay that clings to the filter plates is easily knocked off by tapping the plates with a stick. The clay is used only once. The cake coming out of the filter contains 35 to 40 per cent of oil and is thrown into the coal pile whence it goes into the furnaces of the stills, having considerable fuel value. The cleaning of the filter after a run takes less than half an hour. It is possible to put through the filter as much as 1100 barrels of oil in 24 hours.

Three Tanks Necessary

As the installation works out at the Solar plant, one of the mixing tanks is charging, one is being brought up to temperature and one is feeding the filter all the time. Any installation probably would need three mixing and heating tanks for one press, although the time for bringing the oil up to temperature could be greatly reduced by putting more steam coils into the tanks.

As to the quality of the contact filtered oil, Chief Chemist Hawkins gives them as follows:

Gravity, 24 Be.
Flash, 430 F.
Viscosity, 300-305 at 100 F. Saybolt.
Color, 2¾ Robinson colorimeter, 5-5½ N. P. A.
Pour test, 35.
Demulsibility, very good.

Concerning the demulsibility test, Mr. Hawkins' method of making it is to place about half a pint of the oil in a quart milk bottle and turn a jet of live steam into it for 45 minutes. When the steam is turned off, the oil and water separate into sharp divisions in less than 10 minutes.

Mr. Hawkins says also that the results obtained in the plant check very closely with the best results he is able to get in his laboratory. As to the comparative cost of this method of filtering as against the ordinary percolating filter method, the Solar company has no way of checking that because at that plant they have never used any percolating filters.

Missouri Oil Inspector Attacks Jobbers

ST. LOUIS, Nov. 23.—W. A. McAtee, state oil inspector of Missouri, is making a check of gasoline tax payments by St. Louis jobbers as a result of which he has made announcements through the daily papers that four companies have failed to pay taxes during recent months which with penalties reach a total of $26,996.

National Petroleum News sent telegrams to a number of St. Louis jobbers asking for a statement regarding their controversy with the inspector. Two replies received by return mail were to the effect that the amount claimed by the state is not due.

Charles H. Osthoff, Jr., secretary of the Liberty Bell Oil Co., replied that "We do not owe the amount claimed by the state oil inspector. For your information, the audit of St. Louis companies has not been completed."

E. F. Zumwinkel, president of the Tower Oil Co., which received some unfavorable publicity in St. Louis papers, reported that there never has been an inspector in the company's offices, although it was claimed that payment had been made after the office was checked up. The only report the inspector received was a monthly statement such as that made by all jobbers.

Following is the statement made by Mr. Zumwinkel: "We have considered this matter very lightly since the figures shown by the state oil inspector are very far from being right. We became a little bit aggravated when our name appeared in the St. Louis Post-Dispatch under the heading that we were dodging the Missouri oil tax. Further down in the item it had the Tower Oil Co. short 20 carloads for July and August. The facts are that we paid for 25 carloads for July and August, and this is all the gasoline we received subject to tax.

"The only criticism the state oil inspector had in reference to our company was the fact that we did not send in our report on time. We held this up because we did not feel we should dig down in our pockets for road tax money that we had not collected. We saw no good reason that we should be in such a big hurry to send the tax if we had not collected it, and it is a fact that not once did the state oil inspector ask us to send him any report that we might have delayed."

From information given by St. Louis jobbers it seems apparent that Mr. McAtee probably intends to run for some elective office after his hitch as inspector is over. His action in giving out tax dodging stories to the press before any tax was dodged or before the matter was taken up with companies concerned will hardly endear him to the distributors or cause them to give his office the co-operation which he might like to have.

The Missouri state law does not require jobbers to pay tax on gasoline until it is sold. Stocks of gasoline on hand at the close of any month are reported and deducted from gasoline receipts to arrive at a net amount on which tax should be paid. Cleaners, operators or stationary gasoline engines and other consumers aside from drivers of motor vehicles are not required to pay the tax in Missouri.

FARMVILLE, VA.—Brickert Oil Co. has completed an addition to its Third St. station to allow more space for the handling of greases and accessories. The company has renewed its contract to handle gasoline of the Standard Oil Co. of New Jersey, according to J. C. Brickert, manager.

TULSA.—O. M. Wasson, a well-known oil man of Tulsa, died of heart trouble on Sept. 25, according to J. F. Snyder, foreman in the Bristow district for the Skelly Oil Co.

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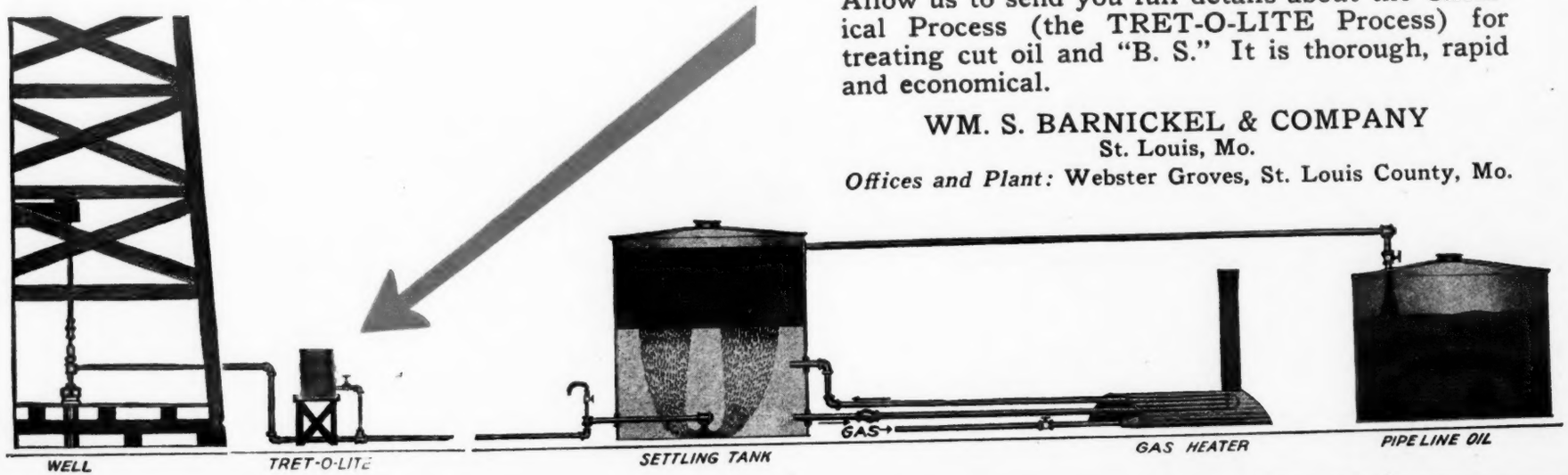


Manufacturers Soon to Deliver A. P. I. Specification Pipe

THE Division of Standardization of the American Petroleum Institute has announced that casing made in accordance with A. P. I. casing specification No. 5-A is now available. Seven manufacturers of casing are listed as either having the gages of A. P. I. specification on hand or ordered.

The pipe specification is the result of several years' work on the part of the pipe committee of the Institute and, in the language of J. Edgar Pew, president of the Institute, "represents what we hope to be the solution of our casing problems."

In the following paragraphs the status of the several manufacturers is listed. Each of the mills mentioned has applied for and has authority to use the A. P. I. monogram on casing. Future bulletins will report the licensing of other companies.

National Tube Co., Pittsburgh
Gages

This company has the necessary gages on hand for all sizes of A. P. I. pipe listed in the A. P. I. pipe specification No. 5-A.

Delivery of Material

Shipment can be made on all sizes approximately sixty days from receipt of orders.

Youngstown Sheet & Tube Co., Youngstown, Ohio.
Gages

Gages have been ordered and delivery promised by the gage manufacturer within sixty to ninety days.

Delivery of Material

Shipment can be made within two weeks after receipt of gages on the following sizes: 4¾", 6⅝", 8⅝", 10¾", 11¾" and 16". Delivery of other A. P. I. sizes can be made within about six to eight weeks after receipt of gages.

Standard Seamless Tube Co., Ambridge, Pa.
Gages

Gages have been ordered for the 6⅝" and 8⅝" sizes and deliverey expected on or about December 15, 1925. Gages for other sizes will be ordered as demand develops.

Delivery of Material

Delivery of 6⅝" and 8⅝" sizes can be made within thirty days after receipt of gages. Delivery of other sizes can be made within sixty days after receipt of gages.

South Chester Tube Co.,

Chester, Pa.

Gages

Gages have been ordered for the following sizes: 4¾", 6⅝", 8⅝", 10¾" and 11¾", and delivery is expected within thirty days. Gages have not yet been ordered for the 5¾", 8⅛" and 13⅜" sizes; the last named size being the diameter limit of their capacity.

Delivery of Material

Delivery of the 4¾", 6⅝", 8⅝", 10¾" and 11¾" sizes can be made within thirty days from date of orders. Delivery of the 5¾", 8⅛" and 13⅜" sizes can be made within sixty days from receipt of orders, inasmuch as gages, ordered at the time of placing the casing orders, should be completed before they are ready to roll and finish casing.

Wheeling Steel Corp., Wheeling, W. Va.

Gages

Gages have been ordered, and delivery is expected within four or five weeks.

Delivery of Material

Delivery can be made within two weeks after receipt of gages. They contemplate making the following sizes only at the present time under A. P. I. license: 6⅝", 8⅝" and 10¾".

Reading Iron Co., Reading, Pa.
Gages

Gages have been ordered for the following sizes: 4¾", 6⅝", 8⅛", 8⅝", 10¾", 11¾" and 16".

Delivery of Material

Delivery of the above sizes can be made with reasonable promptness after receipt of gages.

The necessary gages and epuipment will be provided to manufacture the 5¾" and 13⅜" sizes when the demand for these sizes justifies.

Jones &Laughlin Steel Corp., Pittsburgh

This company has been authorized to use the A. .P. I. monogram on casing manufactured in accordance with the A. P. I. specifications, and advises that they are anxious to co-operate. They advise further that as soon as the demand for A. P. I. material justifies, the necessary equipment will be provided and approximate dates of delivery furnished.

General

The following firms have been authorized to use the A. P. I. monogram on casing, but data is not at hand regarding the status of gages or delivery of material.

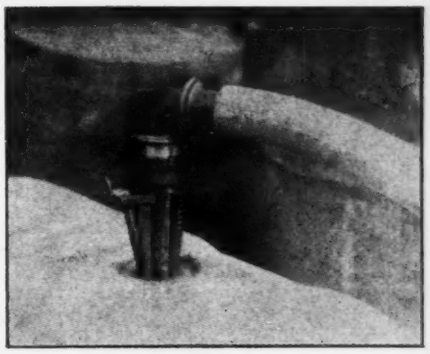
Stewarts & Lloyd, Ltd., 41 Oswald St., Glasgow, Scotland.

Ste Ame des Usines a Tubes de la Meuse, Flemalle-Haute, Belgium.

Ste Ame d'Escaut et Meuse, Anzin, (Nord), France.

CLARKS, NEB.—Pollard Oil Co. is installing another 16,000 gallon gasoline storage tank. The company recently completed its second service station here, according to J. H. Pollard, owner.

Anti-Static Nozzle



The filler nozzle used by the Associated Oil Co. showing the notched wedges designed to make the nozzle fit the hole and (at left) the spring latch that insures contact between nozzle and metal of container.

SAN FRANCISCO, Nov. 20.—Engineers of the Associated Oil Co. here have developed a new filler nozzle for use with one and a quarter inch gasoline hose for filling drums or other containers from trucks or loading racks. The nozzle is designed to prevent static sparks by making sure of contact between the nozzle and the wall of the filler opening of the container.

The nozzle, which is made of brass, is rather heavy with notched lugs on the sides which make it easy for it to slip into any size hole and make contact with the edges. In addition to this, there is a spring latch attached to one side which forces the side of the nozzle against the side of the filler opening, assuring contact and preventing the nozzle from jumping out.

New Station Named After Wrestler

WISCONSIN RAPIDS, WIS.—A modern service station was opened at Port Edwards, Wis., on Nov. 7 by the Wisconsin Rapids Oil Co. It has been named the Ed "Strangler" Lewis Service Station in honor of the world's champion heavy weight wrestler whose native town is Port Edwards.

The station is equipped with all modern conveniences and equipment and has as a feature, a lounging room for ladies.

A "rushing" business in gasoline and oils was done on the opening day, according to Roy B. Salter.

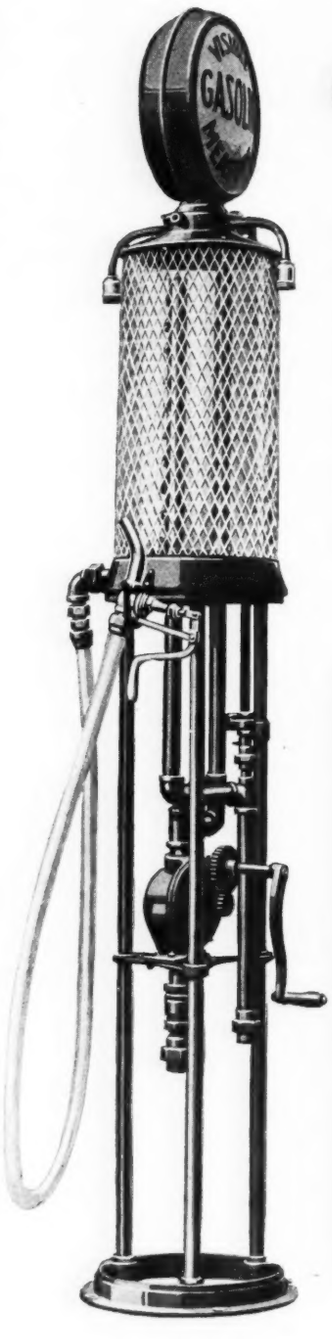
Pure Oil Moves Cincinnati Offices

COLUMBUS, O.—On Nov. 20 the central distributing division's executive offices of the Pure Oil Co. were moved from Cincinnati to Columbus in order that closer co-operation could be gained with its general offices there.

All correspondence and matters relating to the jobbing grease or soap business should be addressed to the grease and soap jobbing department at Columbus, according to Guy Peters, assistant sales manager.

Sell More Gasoline

with a



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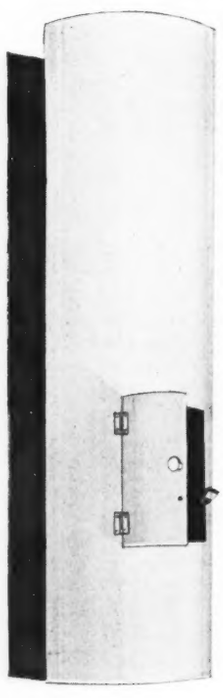

AMONG the numerous labor saving features of The Raymond latest Model C, Ten Gallon pump—the wet hose is one that is highly important.

The wet hose not only eliminates spilling, thus reducing fire hazard, gives cleaner and more satisfactory service, but what is more vital, this feature actually brings additional dollars into your pocket.

Usually you have to spend considerable money to make money but in buying Raymond your outlay of capital is small. We have been able to reduce factory and operation costs without sacrificing any salient features. That saving we pass on to you.

If you are interested in buying a most economical gasoline pump write Raymond for prices. Also ask for our plan of increasing the individual sale.

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Adrian, Michigan

Letters to The Editor

Dear Sir:

MY ATTENTION has been drawn to a short article in your Sept. 2 issue, under the Editor's Viewpoint, the question seems to have arisen whether or not a contaminated oil from the crank-case of an automobile can be economically restored to its original condition.

Again in the Oct. 21 issue, under Letters to the Editor, Mr. Parish, consulting lubricating engineer of New York City, brings out the point of liability in case any damage occurs to motors with the use of such oils.

There is very little danger of "liability" in case the contamination is taken out of the crank-case oil, crank case oils should never have been thrown away but returned to the refineries, and now in the age of being able to purchase reclaiming outfits at a reasonable cost every city or large user of automobile oils should have one. If you would multiply the amount of cars in any one city by the three gallons of oil that is drained from the crank case of each one in a year's time, you will then have some idea of the tremendous loss carried on each year by an unthinking public and those who for the benefit of their own or employer's bank account condemn the reclaiming of crank-case oils.

In the reclaiming of crank-case oils, the first step necessary is to remove the gasoline which has wended its way into the oil and which has destroyed the original viscosity or body of the oil, it is also necessary to coagulate the impurities which the oil holds in suspension, when this is thoroughly done, it will be found that the oil is restored to a good serviceable product with its original characteristics.

There has also been a number of articles written setting forth the fact that reclaimed oils produce more carbon than new oils, I wish also to take exception to this argument on the basis that very little of the carbon deposited in the head of a motor or on the piston heads comes from the motor oil, but, on the contrary is a mixture of road dust and tar. The road dust is drawn in through the breather into the carburetor where it is mixed with the gasoline, the gasoline furnishes the power to drive the motor and the road dust and tar furnishes the product which is burned on the piston and cylinder heads, and which is later called carbon deposit and the motor oil gets the credit for furnishing it. The writer thinks it is high time we encourage the reclaiming of oils not only from the standpoint of the money we will save but to preserve our future supply.

Why should we say or even insinuate that the owner of a garage or a large fleet of trucks was not as capable as we ourselves.

What prompted me to write you this letter on these two articles was just this, after this last article appeared in the National Petroleum News I was sitting in the lobby of the Carver House in this city one morning and while sitting there heard a lubricating engineer for a large oil company, desperately throw the hooks into the reclaiming of crank case oil and the idea of a man in a garage even trying to do the job. After inquiring from him the many reasons why this grade of oil should not be used and why the garage man was not capable of reclaiming the oil even though he had been thoroughly instructed by the company from whom he purchased the reclaimer, I went further, inquiring from him about how the many different products were separated from crude oil, what the different oils he recommended contained that made them so beneficial, I finally asked him to go with me down on the flats to one of the refineries and explain how the different processes were performed. He then told me they would not let us through or he would be glad to show and explain it all to me, but I informed him I was acquainted and would guarantee that we would get through, this lubricating engineer that was condeming the reclaiming of crank case oil and the garage man that was reclaiming it in a small way, finally admitted that he had the book knowledge of lubricating engineering but no practical ability. Now I would like to know if this lubricating engineer that could not run a still, treat a batch of oil, run a filter, make a kettle of grease, castor machine oil, soluble oil or do anything besides shoot the bull, wasn't more liable to spoil a motor or some valuable piece of machinery than the garage man that was reclaiming a little crank case oil after he had been thoroughly instructed on the work.

Forrest A. Hoff,
Consulting Lub. Eng.

Editor's Note

The accompanying letter in the third paragraph hits the very keynote of the whole matter. The very thing that oil men are most afraid of is that "the contamination" will not be taken out of the oil by the unscrupulous or careless garage man. Most oil technologists agree that used oil can be reclaimed to a condition where it will be serviceable again but they doubt that the ordinary garage man is the man to depend on for such work.

And of course, anyone offering reclaimed oil for sale honestly, would have to tell the customer that it was reclaimed oil and sell it for considerably less than the price of fresh oil or else the customer wouldn't buy it. For the use of owners of truck or car fleets, where the reclaiming would be in the hands of skilled and conscientious men, reclaiming might be worth while.

It is the sale of the reclaimed oil with the possibilities of substitution, of damage to the customer's car and of consequent damage to the reputation of the oil company whose oil the motorist thought he was buying that alarms the oil company.

Editor,
National Petroleum News,
Sir:

Every so often we read of a method for producing gasoline from apple sauce, old turnips or what have you!

All of this creates considerable excitement, some pessimistic forecasts because of the additional quantity of products created to make the wheels go round!

Without apparently any thought as to what will keep them going without burning up.

Being at present engaged in making lubricants and wax with gasoline as a by-product, all the usual causes for alarm leave me cold and exultant.

If, for example, I find that the instrumentalities for the production of gasoline have increased 20 per cent during the past year, I put the reverse English on this information and express it in terms of smaller crude consumption.

And smaller crude consumption means smaller lub production; while making this statement we have our fingers crossed for fear someone will invent a cracking process for the production of lubs and wax.

In the meanwhile, we console ourselves with the following:

Potential contents of lubricants in gallons per barrels of overground crude inventory.

	Gallons
April 1, 1919	2.38
May 1, 1919	2.37
May 1, 1921	2.26
May 1, 1922	2.22
May 1, 1923	1.76
May 1, 1925	1.72
Sept. 1, 1925	1.68
Wax in	**Pounds**
April 1, 1919	1.44
April 1, 1920	1.18
April 1, 1921	1.12
April 1, 1922	.87
April 1, 1923	.81
Sept. 1, 1925	.76

We don't profess to know whether the decline is due to the character of the crude or the character of present operations, but are content to profit by this information no matter what the reason.

Very truly yours,
W. Frederick Suender
Carnegie Refining Co.

Roster of Oil Associations

American Association of Petroleum Geologists. Secretary, C. E. Decker, care University of Oklahoma, Norman, Okla.

American Chemical Society, Petroleum Division, Pittsburgh, Pa. Secretary, George A. Burrell.

American Institute of Mining and Metallurgical Engineers, Petroleum Division. 29 West 39th St., New York. Chairman, E. de Golyer.

American Oil Men's Association, 624 South Michigan Ave., Chicago, Ill. H. G. James, Secretary and Manager.

American Petroleum Institute, 15 West 44th St., New York City. Secretary, R. L. Welch.

Arkansas-Tennessee Oil Marketers Association. Secretary, R. E. McKellar, care Diamond Oil Co., Memphis, Tenn.

Association of Natural Gas Supply Men, 905 Oliver Bldg., Pittsburgh, Pa. Secretary, William B. Way.

Association of Natural Gasoline Manufacturers, 504 A-B Cosden Bldg., Tulsa, Okla. Secretary, A. V. Bourque.

Association of Producers of Petroleum in Mexico, 17 Battery Place, New York, Director, Guy Stevens.

Casper Oil Men's Club, Casper, Wyo. Secretary, E. L. Estabrook.

Cincinnati Oil Club. Secretary, E. V. Weber, care Eureka Oil Co., Cincinnati, Ohio.

Detroit Petroleum Club. Secretary, Frank McSweeney, Cities Service Oil Co., General Motors Bldg., Detroit, Mich.

Eastern Kentucky Oil Producers Association, Ashland, Ky. Secretary, David Browning.

Gulf Coast Independent Oil Producers Association, 403 Goggan Bldg., Houston, Tex. Secretary, T. L. Smith, Jr.

Illinois Petroleum Marketers Association, Secretary, J. B. Kelly, care Corn Belt Oil Co., Bloomington, Ill.

Independent Oil Men's Association of Massachusetts. Secretary, F. E. Bergfors, care Quincy Oil Co., Quincy Adams, Mass.

Independent Oil Men's Association of New England. Secretary, A. R. Tattersall, care F. C. Bellis Co., Worcester, Mass.

Independent Oil Marketers Association of Atlanta, Ga. Secretary, J. H. Smitha, care Community Oil Co., Atlanta, Ga.

Independent Petroleum Marketers Association of California, Inc., 930 Marsh-Strong Bldg., Los Angeles, Calif. Secretary and Manager, H. H. Maxson.

Indiana Independent Petroleum Marketers Association. Field Secretary, Sam T. Hurd, Connersville, Ind.

Iowa Independent Oil Men's Association, 225 Fifth St., Des Moines, Ia. Secretary, M. L. Long.

Kansas Oil Men's Association, 423 First National Bank Bldg., Wichita, Kan. Secretary, J. A. Motter.

Kentucky Oil Men's Association, Ind., Trust Co. Bldg., Lexington, Ky. Secretary, Thomas S. Scott.

Michigan Independent Oil Men's Association, 518 So. Water St., Jackson, Mich. Secretary, P. R. Kempf. Field Secretary, James A. Gilmore.

Mid-Continent Oil & Gas Association, 505 Cosden Bldg., Tulsa, Okla. Secretary, Harry H. Smith.

Kansas-Oklahoma Division, 505 Cosden Bldg., Tulsa, Okla. Secretary, Harry H. Smith.

Louisiana-Arkansas Division, 724 Giddens-Lane Bldg., Shreveport, La. Secretary, Joseph B. Elam.

Texas Division, P. O. Drawer 1567, Dallas, Texas. Secretary, J. P. Laney.

Minnesota Petroleum Association, 638 Builders Exchange, Minneapolis, Minn. Secretary, Paul E. Hadlick.

Missouri Oil Men's Association, 627 New York Life Bldg., Kansas City, Mo. Secretary, George S. Allee.

Montana Oil & Gas Association, Helena, Mont. Secretary, C. C. Adams.

National Association of Independent Oil Producers, 414 Atlas Bldg., Tulsa, Okla. President, William H. Gray.

National Petroleum Association, Munsey Bldg., Washington, D. C. Washington Counsel, Fayette B. Dow.

National Petroleum Marketers Association, Blum Bldg., 624 South Michigan Ave., Chicago., Ill. President, L. V. Nicholas.

Natural Gas Association of America, 905 Oliver Bldg., Pittsburgh, Pa. Secretary, to be elected.

Natural Gas & Petroleum Association of Canada, Chatham, Ont., Canada. Secretary, S. A. Morse.

Nebraska Independent Oil Men's Association, 416 Terminal Bldg., Lincoln, Neb. Secretary, C. M. Sutherland.

New York State Oil Producers Association, Wellsville, N. Y. President, Lewis H. Thornton.

New York State Petroleum Marketers Association, 1201 So. Salina St., Syracuse, N. Y. Secretary to be elected.

North Dakota Petroleum Association. Secretary, D. M. Hitchcock, care International Oil Co., Minot, N. D.

Northwest Independent Oil Association. Secretary, C. H. Brown, care Arro Oil & Refining Co., Lewistown, Mont.

Northwestern Pennsylvania Oil Producers Association, 78 Main St., Bradford, Pa. President, A. Edward Booth.

Ohio Gas & Oil Men's Association, 811 First National Bank Bldg., Columbus, O. Secretary, William H. Thompson.

Ohio Petroleum Marketers Association. 616 Commerce Bldg., Columbus, O. Secretary, C. A. Laubach. Field Secretary, W. C. Hughes.

Oil Men's Association. Secretary, F. W. Mitchell, Clinton Oil Co., Cleveland, O.

Oil Trade Association of Philadelphia, Inc. Secretary, Howard M. Rogers, 20 South 15th St., Philadelphia, Pa.

Oil Trades Association of New York, Inc., 35 So. William St., New York City. Secretary, Joseph C. Smith.

Oklahoma Oil Jobbers Association, 416 Fidelity National Bank Bldg., Oklahoma City, Okla. Secretary, C. M. Kinney.

Oklahoma Oil Marketers, Inc., P. O. Box 755, Enid, Okla. Secretary, W. W. Blackburne.

Okmulgee District Oil & Gas Association, Okmulgee, Okla. Secretary, Charles I. O'Neill.

Osage Oil & Gas Leases Association, 505 Cosden Bldg., Tulsa, Okla. Secretary, Harry H. Smith.

Pennsylvania Grade Crude Oil Association, 209 Chambers Bldg., Oil City, Pa. Secretary, R. J. Alexander.

Pennsylvania Independent Oil Men's Association, 230 Fifth Ave., Pittsburgh, Pa. Secretary, William P. Dunbar, care William P. Dunbar Oil Co., Pittsburgh.

Petroleum Club of Central New York. Secretary, George R. Casey, Crown Oil Co., Syracuse, N. Y.

Pittsburgh Petroleum Club, 216 Bessemer Bldg., Pittsburgh, Pa. Secretary, James C. Myers.

Rocky Mountain Independent Oil Men's Association, (formerly Colorado Petroleum Club), 412 Commonwealth Bldg., Denver, Colo. Secretary, A. Overholtzer.

Rocky Mountain Oil & Gas Association, P. O. Box 1559, Casper, Wyo. Secretary C. W. Sparr.

South Dakota Independent Oil Jobbers Association, Sioux Falls, S. D. Secretary, F. H. Buehler, care Dacotah Oil Co., Madison, S. D.

Southern Petroleum Jobbers Association. Secretary, D. C. Patterson, Camden, S. C.

St. Louis Petroleum Club, 1430 So. Vandeventer Ave., St. Louis, Mo. Secretary, Charles Osthoff, Jr.

Springfield Petroleum Club. Secretary, Ross Lock, c/o Lock Bros., Oil Co., Springfield, Ill.

Technical Club of Oklahoma, 208 Fisher Bldg., Tulsa, Okla. Secretary, R. I. Ginter.

Tennessee Independent Oil Men's Association, Secretary, Tom S. Cooper, c/o Estes-Cooper Oil Co., First St. & L. & N. R. R., Nashville, Tenn.

Texas Division, Mid-Continent Oil & Gas Association, P. O. Drawer 1567, Dallas, Texas. Secretary, J. P. Laney.

Texas Independent Oil Men's Association, Secretary, L. A. Greene, care Radio Petroleum Co., Fort Worth, Tex.

West Virginia Oil Association, Fairmont, W. Va. Secretary, Edwin Robinson.

West Virginia Oil Marketers Association. Secretary, D. E. Frierson, Frierson Equipment Co., Charleston, W. Va.

Western Petroleum Refiners Association, 504 Cosden Bldg., Tulsa, Okla. Managing Director, Howard Bennette.

Wisconsin Independent Oil Jobbers Association. Field Secretary, R. A. Overholser, Gay Bldg., Madison, Wis.

Central Service Builds Warehouse

GREENVILLE, PA.—Central Service Co. of this city, which started in business in April, 1924, as a one pump concern in an 18 by 20 building, now is building a steel warehouse, 30 by 54 feet, to be used for lubricating oils, has one bulk storage plant here, and is at present installing additional storage tanks. It is putting in one 20,000 gallon tank for motor gasoline, one 14,000 gallon tank for kerosene, and one 12,000 gallon tank for 68-70 gasoline. It also owns a siding at the Pennsylvania railroad tracks.

The company is composed of John Brown, his son, Ellis Brown, and D. H. Cunningham, his son-in-law.

Quick service to customers built the business up to where it is now, according to Ellis Brown. The company is agent for the Transcontinental in this territory, distributing Marathon products exclusively.

Puts Out House Organ

DUBUQUE, IA., Nov. 20.—The first issue of "Morrison News" has just made its appearance in oil circles. It is published as the official house organ of Morrison Bros., oil marketing equipment manufacturers, with headquarters here.

The October number, the first one, started off with six pages. The cover of that number has been appropriately dedicated to the cause of the coming N. P. M. A. convention. A cartoon of a smiling oil man, wearing a high red hat appears on the cover under the caption "Kentucky Bound." A page headed "Nick Says" contains comments of L. V. Nicholas, president of the National Petroleum Marketers Association, on market conditions as published in bulletins of the association.

Advertisements of Morrison Bros.' equipment are included. A page is devoted to jokes, which bears the title of "Borings."

In critical situations do you rely on the corner druggist, the family doctor, or—the specialist?

Buying Gasoline Hose Is Serious Business

THE druggist is a good friend in small emergencies—but when it is anything more than a little cut or a slight cold you call in the family doctor, and if it is anything beyond his skill he summons a specialist.

Buying gasoline pump hose is a serious business for the purchaser. If he buys from concerns making gasoline pump hose as a mere side line, he is setting the stage for heavy upkeep expenses and big replacement bills. HE IS TAKING CHANCES WITH HIS BUDGET, just as a sick man is taking chances with his health when he places himself in unskilled hands.

Triplexd is made by gasoline hose *specialists*. They make nothing else. They originated the modern triple constructed gasoline hose.

Others have copied Triplexd design, but none has copied Triplexd methods of manufacture, which make Triplexd the strongest and longest lived gasoline hose in the world.

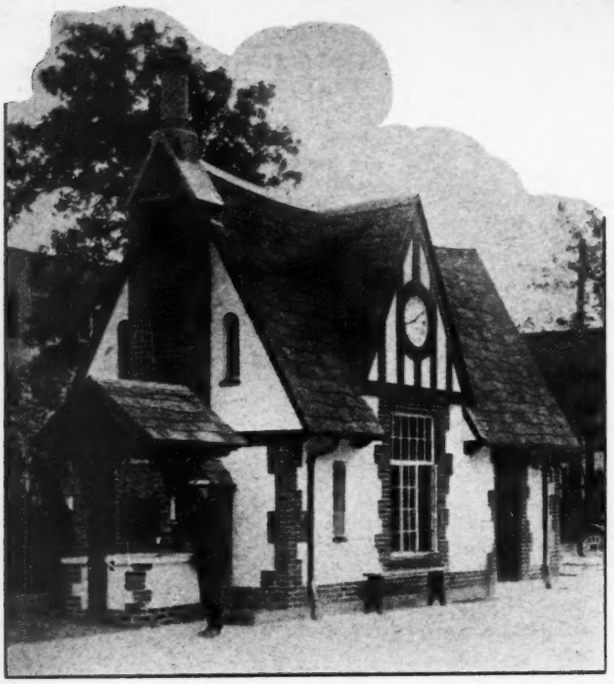
LOS ANGELES:
1625 South Hill Street
SAN FRANCISCO:
873 Mills Bldg.
DENVER: 4800 York Street
ATLANTA, GA.
CHICAGO:
644 W. Washington Blvd.
KANSAS CITY: 1324 Grand Ave.
ST. LOUIS: 1621 Pine St.

METAL HOSE & TUBING CO.
INCORPORATED
236 Tillary Street
BROOKLYN, N.Y.

JACKSONVILLE, FLA.: Talleyrand & Jessie Streets
LONDON OFFICE:
J. Bazley-White, Jr., 3 Love Lane
Eastcheap, London, E.C.3, England
TORONTO, ONTARIO, CANADA:
Dunlop Tire & Rubber Goods Co., Limited

MINNEAPOLIS:
900 Sixth Ave., S. E.
CLEVELAND:
1302 Ontario Street, N.
PITTSBURGH: 1741 Oliver Bldg.
HOUSTON: 700 N. San Jacinto St.
SAN ANTONIO:
1401 South Flores Street
RICHMOND, VA.:
Brook Ave. at S. A. L. Ry.

TRIPLEXD
XXX GASOLINE HOSE XXX



THE old familiar oaken bucket has again come into its own at the recently completed service station of Bartles-Maguire Oil Co., at Milwaukee. It can be seen to the left of the station, relieving, at the time the picture was taken, the thirst of a passing member of the police department. Spring water is furnished gratis to the public

Unusual Station

THE ingenuity and resourcefulness of service station owners or operators often leads to the working out of unique merchandising or advertising ideas. Sometimes it is a novel service for a gasoline station to offer, such as a barber chair for tourists coming back from a camping trip in the woods. Again it is just a curiosity for patrons, such as a pair of bear cubs, or a deer park.

The accompanying article describes several such unique "stunts," sent in by the man running the station. National Petroleum News will be glad to print others as they are sent in.

WHO is not familiar with the old oaken bucket of bygone days, which flourished at each and every farmhouse, and even in the back yards of city homes before the plumbing business got "hep" to the fact that there was room for much improvement?

Such a relic of former days holds forth unblushingly at the very modern and attractive service station which has just been completed in Milwaukee by The Bartles-Maguire Oil Co., Milwaukee. And it is proving popular with motorists, school children, and even the police force, a member of which is reaching forth to imbibe freely of spring water, as can be seen in the accompanying picture. Sanitary drinking cups are provided at the station. Good spring water is served at the "old oaken bucket."

Another unusual idea at this station is the large clock placed in the front gable. The station is equipped with 10 visible electric gasoline pumps, two rest rooms, automatic air pressure device, and a special type of cash registers which record gallonage in each grade of motor oil by quarts, and grease by pounds, and separately for each of the four attendants.

* * *

A LINE of sporting goods as well as hunting, fishing and camping equipment, is carried in stock by Roy Creighton at his large service station at Upland, Calif. Because the town is located at the door of San Antonio canyon, which is popular fishing and hunting territory, Mr. Creighton is handling at his station what the public wants, besides gasoline and motor oil and grease.

THEN there are the bear cubs, the squirrels, the monkeys and the raccoon that do their stuff daily to the delight and amusement of not only the children, but also the grown-ups who drive in to the station of Correct Motor Fuels, Inc., at Alton, Ill. They appeal to the children especially, who may be in a measure responsible for the increasing business done at this company's stations, because of the fact that the children very likely ask their mothers or fathers to "drive to that station that has all the bears."

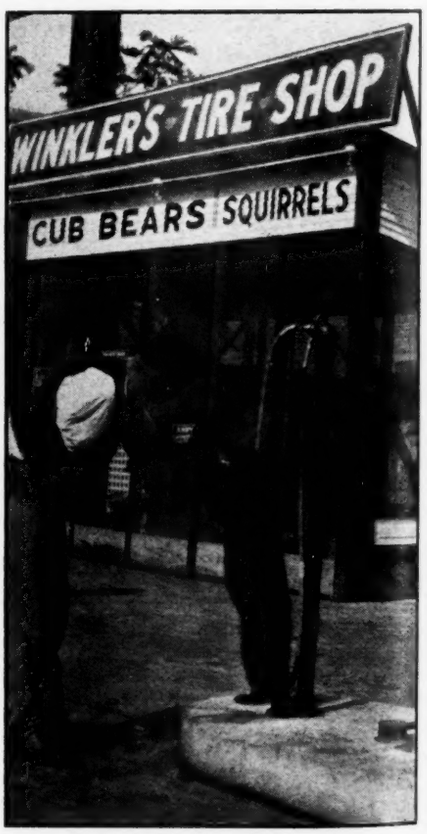
E. A. Gill, president, states that these animals have become such an attraction at his company's stations that on the opening day of one of its newly-completed stations, it was found after a close check that almost 90 per cent of the machines that drove in for gasoline or oil contained children who had come to see the bears.

Two bear cubs were purchased by the company when they were only four weeks old, and to put it in Mr. Gill's own words, "they sure are some pets and a great attraction to the children." A picture of one of the cubs is published here.

A drinking fountain with running ice water is another feature at this new station. It is just outside the door.

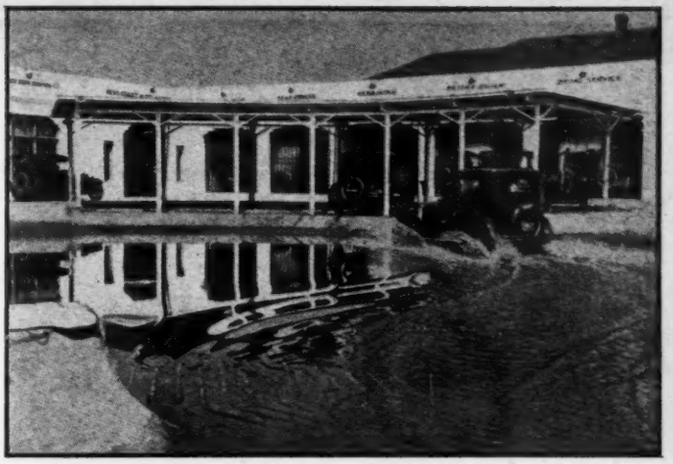
* * *

A SIMILAR attraction is maintained at Fuller's Service Station at Alice, Tex. The proprietor has established a deer park in connection with his station and tourist camp. The deer are fenced in but are left to frolic about in the open, and may be easily seen from the station. They seem a part of the natural scenery about this station, as there are many large trees surrounding the station.



HERE is one of the bear cubs that has proven such an attraction for motorists at the service station of Correct Motor Fuels, Inc., Alton, Ill., and consequently, has helped to increase gasoline and motor oil sales.

Service Features



Here is where your car gets a cafeteria bath.

NOT many service stations boast the beauty and advantage of being surrounded by date-bearing palms, coming all the way from Egypt. These date palms create interest among the motorists, many of whom stop to buy dates and incidentally, gasoline and motor oil. The station is owned by A. L. Wood, and is located at Indio, Calif.

CONSIDER the unique setting of the newly-completed service station and tourists' auto camp of A. L. Wood, at Indio, Calif., located in a forest of date palms. Large date-bearing palms, heavily laden with this luscious fruit, stand in front of the Woodlawn Service Station, arousing the curiosity of tourists, inviting their attention and tickling their appetites. Many tourists traveling on the Sunkist trail, which passes between El Paso, Tex., and Los Angeles, on which the Woodlawn station is located, stop to sample the dates, Mr. Wood states. Those who stop will invariably purchase, not only a supply of fresh dates, but generally a supply of gasoline and oil, he says.

* * *

TIRED and weary travelers passing through Lyons, Kan., find it difficult to pass the attractive layout of cabins which Frank Winters, owner of the Winters Oil Co., has built in connection with his large service station there. When the station was completed on May 27 of this year, only two cabins were finished then, but now Mr. Winters has found it necessary to increase that number to eight. More will be added to that number before the coming season.

Many tourists have found the cottages so comfortable that they have remained longer than they had planned, to rest up, according to Mr. Winters. A large number of tourists have driven in with a complete camping outfit, which was never unpacked, because they declare it isn't worth while to unpack on account of the low cost of occupying an equipped cabin. A cabin including space for parking the car, is $1.50 per night, and without the car space, it is $1 per night. Even late in the season, Mr. Winters reports that his cabins were filled up before 6 o'clock, which speaks well for the comfort, convenience and good treatment at the camp, as the place has never been advertised in any way.

Shower rooms are also free of charge to not only tourists but also to the public.

REPLACING the usual car washing facilities found at most service stations, a huge wash-bowl, 76 feet in diameter has been installed in front of the station of F. W. Souerbry and P. A. Morley, at Hollywood, Calif.

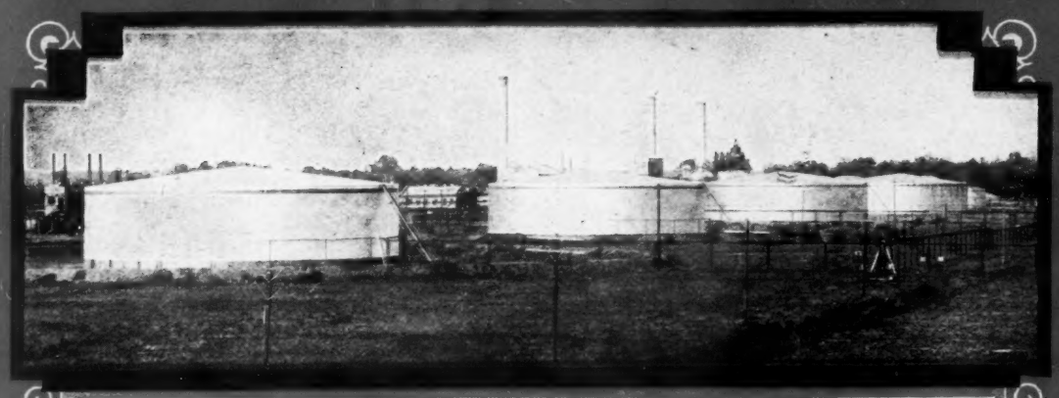
When the bath is made ready for the car of Harold Lloyd or Gloria Swanson, for instance, in this prolific territory of movie stars and otherwise, the tub is filled with water to a depth of 12 or 14 inches. A water proof apron is tied over the radiator and a waterproof cloth is wrapped about the distributor head when the car is prepared for its "bath." The operator drives the car around the bowl, which cleanses the chassis thoroughly. The remainder of the work is done on a wash rack, according to "The Ventura Mission," house organ of the Ventura Refining Co., Los Angeles.

* * *

INSTEAD of the now well-known so-called joke about "when Greek meets Greek, they start a restaurant," it can be said "when a barber meets a carpenter, they start a filling station." At least, that was the case not so long ago in a small town outside of Denver, Colo., when a man who was a carpenter by trade decided to build a station in a town through which a tourist must pass last before he goes into the mountains for a vacation close to nature, or hit first on his return to civilization.

He built his station. In a short time, he was able to build a better station on a new site. While he operated his first station, he had observed that tourists back from the mountains would invariably ask for a barber shop, and those who arrived at the barber shop first would ask to be directed to a filling station.

So the barber and the filling station operator got together and mixed gasoline business with shaving soap. It has proven successful for both, according to "The Kansas Oil News." The barber shop is also equipped with shower bath, and across the street is a beauty parlor for the lady tourist wishing a facial or a marcel after the winds and sun of the outdoor life.



Tanks of Pure Oil Co., Smiths Bluff, Texas, Painted With Metalsteel Aluminum

Government Figures Prove Metalsteel Aluminum Still Unexcelled

No stronger tribute could ever be paid Metalsteel Aluminum—the tank paint of proved superiority—than is contained in the following record of facts:—

First in the field—always the leader.

First to introduce the "separate-powder-container" package, all contrary and "pioneering" claims notwithstanding.

Millions of barrels of storage protected.

Metalsteel sales for the first nine months of 1925, 60% in excess over the entire year of 1924.

Metalsteel Aluminum reflects sunlight from your tanks—deflects dollars into your pocket. Always saves more than it costs. It is not sold ready mixed—but is furnished in "separate-powder-container" packages (originated by the St. Louis Surfacer & Paint Co.) which permits mixing the paint to full brilliancy, in any quantity, as and when it is used . . We are also prepared to supply separately "Metalsteel A-9 Aluminum Vehicle" to be used with Aluminum Company of America Standard Powder . . Send for your copy of "Evaporation Losses—Successful Preventive Measures." This is a complete treatise on the value of Metalsteel Aluminum Tank Paint based on a report made by Ludwig Schmidt, Associate Petroleum Engineer, Bureau of Mines. It tells the real story of Metalsteel Aluminum Tank Paint.

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SURFACER & PAINT CO.

METAL STEEL PAINT
Defies Time

5501 HAZEL AVE.
ST. LOUIS, MO.

METALSTEEL ALUMINUM

"The Paint of Proven Superiority"

Weathering Losses of Salt Creek Oil Can Be Greatly Reduced

By J. S. Ross,
Petroleum Engineer, Mineral Leasing Division, U. S. G. S.

THE drilling and subsequent operation of oil wells is an expensive business requiring careful and efficient methods leading to the recovery of every possible barrel of oil from underground. These production costs should warrant the conservative and careful handling of the product after it has been brought to the surface. Yet, in the Salt Creek field, thousands of barrels of oil are lost annually through its evaporation from open tanks. This loss falls directly upon the producer. With the price of Salt Creek crude now on a gravity basis, his losses in value of oil are often even greater than the shrinkage losses, because of the drop in gravity due to evaporation.

During the three summer months of June, July and August, not less than 10,000 barrels of oil per month are lost through evaporation from crude oil standing in full and partly filled tanks. It is the general practice in this field to allow all oil produced to stand 24 hours before it is run to the pipe line. This is to allow all free gas to escape and the oil to settle before the gauge for volume is taken.

We find that for these three months 30,000 barrels of oil are lost, amounting to over $61,000 of $2.04 oil. In terms of gasoline, which is really what has been lost from the oil, the gross value lost through this source alone would be over $126,000. These figures do not include the evaporation losses from flow tanks nor the losses that occur during the filling and emptying of lease tanks. Investigations in other fields* have shown these losses to be greater than the losses through evaporation during standing only.

During the past year a large number of evaporation tests were made by this bureau in the Salt Creek field. These tests were made under various atmospheric conditions on oil held in vapor tight and non-vapor tight tanks, and on oil during steaming, and were conducted for the purpose of determining the summer and winter losses from open tanks, and the advantages of gas-tight tanks. In these tests the oil was carefully gauged, its volume corrected for temperature and duplicate samples taken for gravity determination. No tests were made to determine the losses that take place during the filling and emptying of tanks.

*Reference:

Evaporation Loss of Petroleum in the Mid-Continent Field by J. H. Wiggins, U. S. Bureau of Mines Bulletin No. 200.

Methods of Decreasing Evaporation Losses of Petroleum by J. H. Wiggins, U. S. Bureau of Mines Technical Paper No. 319.

The accompanying article was recently prepared for distribution to operators in the Salt Creek field. Because of the government's large royalty interest in this field, engineers of the Geological Survey are constantly at work studying methods of improving operating practices and giving operators the results of their study. The discussion in the present paper covers a subject of foremost importance to the oil producer in any field.—Editor.

Losses by Volume

The results of these tests indicate that the evaporation of Salt Creek oil when held in ordinary oil field or open tanks, will range from practically nothing in midwinter, except when oil is artificially heated to over one barrel per day from a 250-barrel tank in summer. The evaporation of oil standing in a 500-barrel tank is on an average, about double that from a 250-barrel tank. During the summer months oil of 38° and 39° gravity, showed consistent average rates of evaporation one barrel per day from 250-barrel tanks and two barrels from 500-barrel tanks. Oil held in gas tight tanks, however, showed no measurable losses either in volume or gravity.

There are many factors that affect the rate of evaporation. Among the most important are: gravity, oil temperature, atmospheric temperature, tightness of tank and distance of tank from well and whether shielded from wind and the sun. Laboratory tests on several grades of Salt Creek oil indicate that the drop in gravity of oil of 39° during the first 24 hours weathering was from two to three times more rapid than for the lower grades for the same period. Oil will evaporate more readily from tanks having numerous or large openings in their decks than from those with only a few small openings, or from semi-tight tanks. A tight tank maintains a blanket of saturated vapor over the oil which offers protection to the liquid. Open tanks allow the vapor to escape and air currents to enter, which rob the oil of vapor.

The relation of gravity loss in oil to volume is approximately two to two and a half per cent (2% to 2½%) of its volume for each one degree drop in gravity. This relation will vary with the gravity of the oil, but is an average based upon a number of field tests on Salt Creek oil. In laboratory tests, however, losses in volume ran as high as four per cent for each one degree drop in gravity.

Value of Gas-Tight Tanks

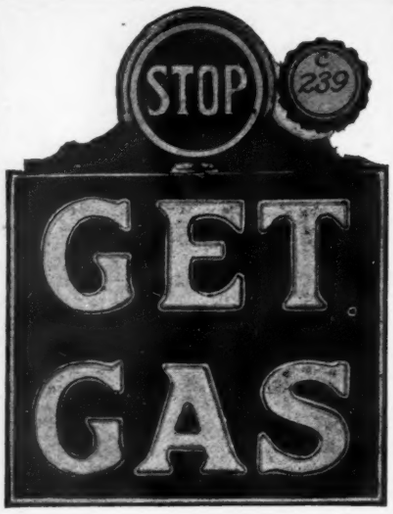
The financial gain possible from the use of gas-tight equipment is well illustrated by the results obtained in the case of one 40-acre lease in Salt Creek on which one flow tank and six stock tanks were recently gas tighted. In June of this year, prior to gas tighting of tanks, the average gravity of all oil run to the pipe line from this lease was 38.5°. During that month only one tank of oil, or 2.1 per cent of all the oil shipped, ran above 39.0° gravity. The average mean atmospheric temperature was 61° F.

The gun-barrel and the six 250-barrel stock tanks were made gas-tight early in July, and the average gravity of the oil run during that month was 38.7°. This is an increase in gravity of 0.2° over the preceding month, made in the face of adverse temperature conditions, the average mean temperature for that month being 70.3° F. During that month 16 per cent of all oil run was shipped at or above 39.0° gravity.

During the first fifteen days of August, the average gravity of oil run in gas-tight tanks was 38.9°, and 34 per cent of the oil was above 39.0°. This alone resulted in an added profit to the lease of nearly $12.50 per day, not including the saving in shrinkage that would otherwise have taken place had the tanks been open. Four 500-barrel open tanks on the same lease filled from the same gun-barrel ran at

OPEN OR NON-VAPOR TIGHT TANK

Date	Atmos. Temp. Mean	Vol. of Oil at 60°F.	Temp. of Oil	Gravity of Oil	Cumulative Losses Volume Bbls.	Volume Per Ct.	Grav. °API
July 6	70° F	227.6 Bbls.	83° F	39.0° API			
July 7	69° F	226.5 Bbls.	83° F	38.6° API	1.1	0.5	0.4
July 8	64° F	225.3 Bbls.	81° F	38.4° API	2.3	1.0	0.6
July 9	74° F	224.5 Bbls.	82° F	38.3° API	3.1	1.3	0.7
		VAPOR TIGHT TANK					
July 6	70° F	225.3 Bbls.	79° F	38.9° API			
July 7	69° F	225.3 Bbls.	79° F	38.9° API	0.0	0.0	0.0
July 8	64° F	225.2 Bbls.	79° F	38.9° API	0.11	0.05	0.0
July 9	74° F	225.2 Bbls.	81° F	38.8° API	0.13	0.06	0.1



FIRST TIME IN HISTORY

Unbreakable Glass Signs Pump Globes

Write for Prices and Circular

Opalume Sign System, Inc.
Battle Creek, Mich.

—just one of many styles

PRUDEN SYSTEM

Keeping "Overhead" low

Spells profits in the filling station business.

Using PRUDEN SYSTEM all steel buildings for your filling stations will put your overhead down to the minimum, because

1. They cost about a third as much as a brick building, giving the same service.

2. They are quickly put up enabling you to be doing business in them long before a brick or stucco building would be erected.

Agents Wanted

Metal Shelter Co

Wabasha & Water Sts.
SAINT PAUL, MINN

an average gravity of 37.8°, or at a value of 16 cents per barrel less than the oil run from the gas-tight tanks.

The average weighted gravity of Salt Creek oil for the first 15 days of August was 36.4°. Twenty-five per cent of the daily pipe line runs as indicated by gravities taken by this office shipped within .2 of one degree gravity below an even degree or price change. In other words, from figures based upon the number of samples of oil taken from 80 per cent of all tanks shipped in the field, one fourth of the oil was shipped at the .8 and .9 degree points on the gravity scale.

From the results observed when the tanks on the 40-acre property were made gas-tight and from a number of evaporation tests that were made on individual tanks, the results of which will be given later in this paper, it is reasonable to believe that gas-tight equipment would raise the gravity of this 25 per cent two-tenths of one degree or more, and place it at or above a price change point.

Increase in Value

Using the figures given above and taking 56,000 barrels as an average daily pipe line run from Salt Creek, it is apparent that an increase of .2° gravity for 25 per cent of the oil run would mean an average increase in oil value of $1,120 daily, or $16,800 for the first 15 days of August.

The effect of evaporation upon oil stored in the ordinary type of open oil field tanks and the value derived from gas-tight tank equipment, is typically illustrated by a test made in July on two 250-barrel tanks in which the oil was allowed to stand for three days. The two tanks, set side by side, one vapor-tight and the other with its thief-holes open, were filled from the same flow tank, gaged simultaneously and allowed to stand undisturbed during the test, except for gaging and sampling at 1 o'clock each day. The results are as shown in table on page 95.

It will be noticed that the oil standing in the open tank lost one barrel for each day of the test and that its gravity dropped 0.4° in the first 24 hours. At the time of the test, oil of 39.0° gravity was worth $2.25 but the 0.4° drop put it within the $2.00 price bracket. Hence by holding this oil 24 hours the producer not only lost by evaporation one barrel of oil valued at $2.25, but his profit on this tank alone was cut $56.90 because of the drop in gravity.

The losses due to evaporation of oil held in the vapor tight tank were negligible. The gravity of this oil happened to be 38.9° at the start but no drop took place during the first two days. Had this oil been 39.0° gravity it is reasonable to believe, in the light of this and other tests, that it would have remained unchanged for the same period of time.

It should be stated that both tanks were filled under gas-tight conditions prior to the test. And it will also be of interest to note that the initial boiling point of the oil in the open tank rose from 121° F., which is near the average for Salt Creek oil, to 138° F., after having stood three days.

A similar test conducted on May 27, 1925 on one non-vapor tight tank in this particular battery, before gas-tight equipment had been installed, showed identically the same loss in barrelage and gravity during the first 24 hours. In connection with this test, it is interesting to note that the 250-barrel tank was filled with 39.0° gravity oil at 9 A.M. and at 4 P.M. of the same day or seven hours later, a loss of 0.6 barrel and a gravity drop of 0.3° were recorded.

Evaporation tests on oil held in 500-barrel tanks show that the shrinkage due to evaporation is usually about double the loss from 250-barrel tanks.

The following test was made in August 1924 on two 500-barrel tanks, one of which was vapor tight:

	Date	Cumulative Evap. Loss		Gravity of Oil
Non-vapor Tight Tank:				
	August 4	0 Bbls.	0 per ct.	36.3° A.P.I.
	August 5	2.7 Bbls.	0.57 per ct.	
	August 6	4.3 Bbls.	0.92 per ct.	
	August 7	6.2 Bbls.	1.32 per ct.	
	August 9	8.7 Bbls.	1.86 per ct.	
	August 11	11.1 Bbls.	2.37 per ct.	35.1°
Vapor Tight Tank:				
	August 4	0 Bbls.	0 per ct.	36.6°
	August 11	0.6 Bbls.	0.01 per ct.	36.3°
		Drop in Gravity		0.3°

Some idea of what happens when thief-hole covers on gas tight tanks are left open may be had from the results of the following test. A gas-tight tank was filled with 240.5 barrels of 38.9° gravity oil and allowed to stand 24 hours, after which the two thief-hole covers were propped open for two days. This experiment incidentally was made during the highest atmospheric temperatures of the summer; the average for the three days being over 96° F. The average temperature of the oil was 80° F.

	Losses by Evaporation—not cumulative In Volume		In Gravity
Filled July 13, 1925 8 A. M.			
Stood 24 hours tank gas-tight	0.23 Bbls.	0.09 per ct.	None
Stood 24 hours tank not gas-tight	1.59 Bbls.	0.66 per ct.	0.3°
Stood 2 days tank not gas-tight	3.24 Bbls.	1.35 per ct.	0.7°

The temperature of the vapor between the surface of the oil and the roof of the tank reached a maximum of 129° F. in the first 24 hours and 127° in the second 24 hours. This temperature is above the initial boiling point

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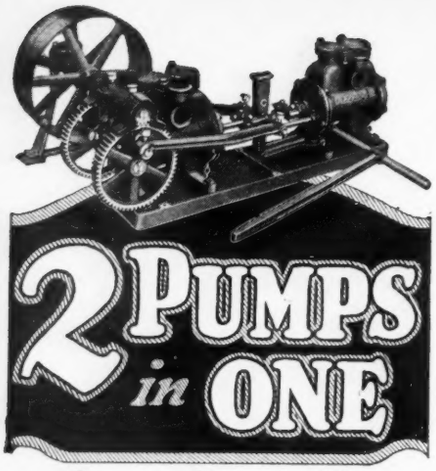

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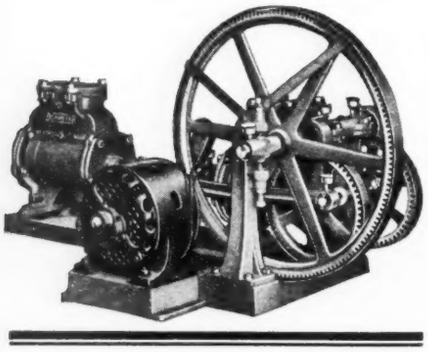


of the oil as determined in the laboratory from oil samples.

From these figures it will be seen that thief hole covers on vapor-tight tanks must be kept closed if any beneficial results from such equipment are to be realized. It is observed that pumpers are prone to leave the covers open, and considerable education and checking up on tanks will be necessary before they are kept tight.

Losses During Steaming of Oil

In winter, while the evaporation of standing oil due to weathering alone is practically negligible in the Salt Creek field, the losses suffered by oils that are steamed in open tanks constitute a waste that is not fully realized by producers in the field. Considerable oil is heated or steamed to decrease its viscosity when atmospheric temperatures are low and increasingly more oil will be dehydrated by steaming as the field becomes older. It is not uncommon to find oil heated to 110° F., and even to 120° F., a temperature which is near the initial boiling point of the oil. Under these conditions much of the lighter portions in the oil are evaporated with a resulting shrinkage in volume and a drop in gravity.

It is a fact, borne out by actual field tests made during the past winter, that oil heated in vapor-tight tanks to temperatures even above 110° F. showed no appreciable loss in volume and not more than one tenth of one degree gravity drop. It is believed that when the tanks are tight most of the vapor which has been driven out of the oil condenses on the tank decks and drips back into the oil. This will be observed if a thief hole cover of a tank in which oil is being "steamed" is opened during cold weather.

The coldest atmospheric temperatures of last winter were experienced during December therefore, the results of an evaporation test on steamed oil made during that month when conditions were adverse to evaporation will be of particular interest and are given below.

A vapor-tight tank containing 440.75 barrels of 37.2° gravity oil was gaged on December 10, 1924. One man-hole and two thief-hole covers were propped open from one to two inches to allow vapor to escape, thereby duplicating open tank conditions. The oil was then heated by means of steam coils to 109° F., a rather high temperature but which was according to the customary practice on that lease. Forty-two hours later the oil was again gaged and found 5.4 barrels short, representing a loss of 1.2 per cent of its original volume. The gravity had dropped 0.4 degrees.

Oil steamed to 118° F. in a vapor-tight tank under practically similar atmospheric conditions, but standing 4 days instead of two, showed a drop of 0.1 degree gravity and a loss of less than one barrel.

Based on the present price of crude in this field, the first tank of oil before steaming would have been worth $934.39, but the losses through the three small openings in the tank deck carried the gravity below the next price bracket in which the value of the oil would have been $899.13 or $35.26 less. The value of the volume lost alone was $11.45.

In March of this year a 250-barrel open tank containing 37.4° Be. gravity oil was steamed to 98° F. The operation required two days. Careful record of the volume and gravity of the oil showed that the tank suffered a loss of 4 barrels, or 1.9 per cent of its volume due to evaporation. The gravity of the oil dropped two degrees placing the steamed oil into the next lower price bracket effective at that time. This alone represented a loss of $41.20 in profit to the operator, besides the $4.00 which was the value of the oil lost. The value of the portion of the oil lost figured as gasoline would be $16.80.

It is apparent that considerable Salt Creek oil is steamed to excessive temperatures. A temperature of 85° or 90° F. should be sufficient to break down the ordinary oil-water mixtures encountered in this field. It is admitted that stubborn emulsions, tank bottoms and pond oil require more severe treatment, but these are the exceptions. Excessive steamed oil temperatures will increase evaporation and results in less profit for the operator.

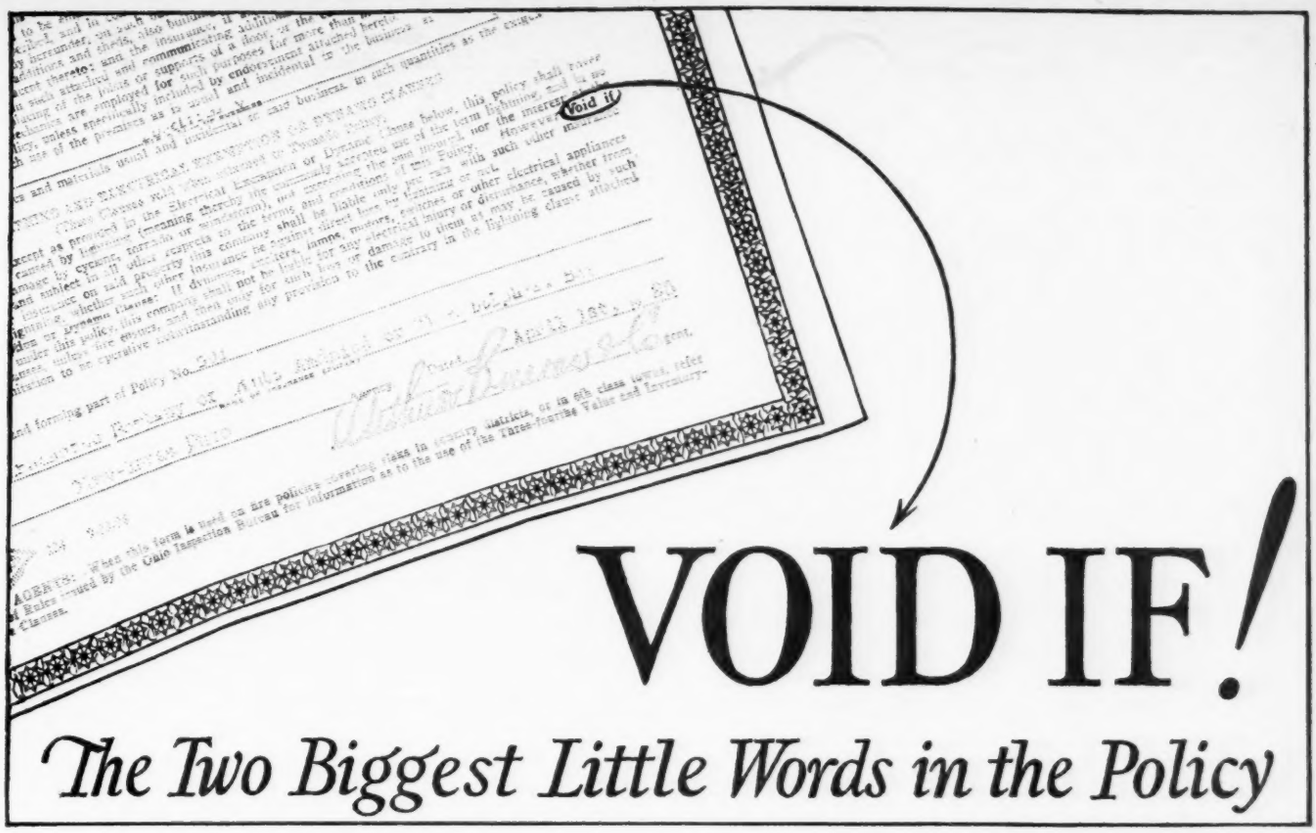
Individual Well Tanks

Long lead lines carrying oil from small producing wells to distantly located tank batteries, particularly if they discharge into large open type field tanks, make for loss in oil and subnormal oil gravities during the summer months. Lead lines, if exposed to the sun during the summer months, become very hot as will likewise the oil flowing through them. However, in Salt Creek it is not advisable to bury these lines because in winter it is often necessary to thaw them.

Tests in June 1925 showed that the gravity of oil dropped from 0.5 to 1.5° Be. and oil temperatures increased from 30 to 40° F. above normal well head temperatures while flowing through long lead lines. Some drop in gravity of the oil will invariably take place in long lead lines, even in mid-winter. However, when these lead lines discharge oil at temperatures of over 100° F. into open stock or flow tanks, loss of oil and lowered gravities will of course be the result.

The Carter Oil Co. has installed separate tanks at or near its individual pumping wells. These tanks are gas-tighted, as are all tank batteries on the Carter leases. B. A. Meyers, superintendent, has furnished the following information regarding one of his leases. The Carter's Howard lease in Salt Creek has one well which has been making about 6 barrels per day. Prior to June 20, 1925, it produced into a low 500-barrel tank through about 600 feet of lead line. After 40 days filling and 18 days standing the oil was shipped at 34.4° gravity.

A 250-barrel tank, partly gas-tight,



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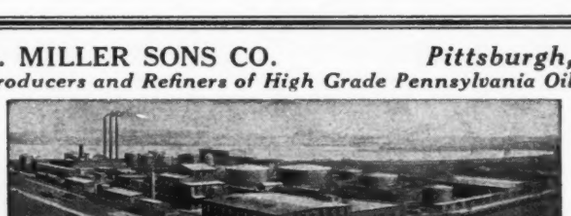

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was moved up to the well and after 22 days filling the oil was run at a gravity of 36.1°. The tank was then made gas-tight and after 25 days filling the oil was run to the pipe line at a gravity of 38.1°. These gravities increased in the face of increased atmospheric temperatures. Due to the revised method of handling the oil the marked production of the well was increased by from 2 to 3 barrels per day, and the value of the oil increased 32 cents per barrel.

In other words, by shortening the lead line and reducing the size of the tank and making it gas-tight, eight barrels of $2.20 oil are being shipped daily instead of six barrels of $1.88 oil. This is a profit of $6.32 per day.

Vapor-Tight Tanks

To be most effective a vapor-tight tank should be free from leaks and capable of withstanding and maintaining at least slight pressures or vacuums by the use of efficient pressure vacuum relief valves. Thief hole covers, if not tight are sources of leakage.

It is a waste of money to install efficient relief valves on tanks that leak along their chimes and seams. It is likewise poor economy to put leaky and inefficient valves on otherwise tight tanks. It is suggested that wherever a tank is gas-tighted that it be first tested for leaks by dousing soapy water along its seams or by filling the tank to its dome with oil. Some so-called gas-tight tanks in Salt Creek were observed from which the vapors apparently found exits other than through the relief valves.

To eliminate the necessity of frequently opening thief-hole covers to gage filling tanks, the Ohio Oil Co. is welding 2-inch gaging wells in the center of dome cover plates on its gas-tight tanks. The pumper tops his tanks from these wells and the thief-holes are opened only for the pipe line gager.

The Continental Oil Co. is endeavoring to reduce the agitation of oil and subsequent losses in flow tanks by extending lead lines down into the tanks so their discharges are below the surface of the oil instead of at the top of the tank. This eliminates a 12-foot drop in the open tank and makes for conservation. This same practice could be applied to stock tanks. Should there be a tendency of the oil to syphon back through the discharge lines, a perforation or two should be made in the top of the riser, just beneath the tank deck.

Pressure-Vacuum Relief Valves

There are on the market a number of tank valves from which an oil operator may make his choice. Valves, however, vary in style, operation, size and capacity, and for this reason the following discussion is presented.

Recently through the courtesy of the Ohio Oil Co., and with the co-operation of E. V. Foran, assistant natural gas engineer, the writer ran a series of tests on ten different types of tank valves

for the purpose of determining:—(1) The pressures or vacuums at which they released, and (2) their capacities and the pressures or vacuums that build up behind the valves when increasing volumes of gas or air are passed through the valves. The gas volumes were measured by means of an orifice meter, a water column being used for the differential gage. The valves, in turn were connected to a six-foot joint of eight-inch casing, which served as a reservoir. A manometer registered in inches of water the pressures and vacuum behind the valves. The data were plotted on cross-section paper, ounces of pressure and vacuum being plotted against volumes of gas expressed in hundreds of cubic feet per hour. Actual tank conditions were duplicated as closely as possible; air was pulled through the vacuum side of a valve and gas (Spec. Grav. 0.88) run through its pressure side.

The accompanying chart on Page 104 shows the curves made by several different types of valves. Curves A, B, C are of two-inch valves, i.e., their tank connections are two inches in diameter. Curve D is an ordinary two-inch horizontal swing check valve and curve E represents a three-inch valve.

It is evident that the valve represented by curve A is of small capacity and that its vacuum side is not designed to handle an excess of 200 cubic feet of air per hour, without pulling more than two ounces vacuum on a tank. It is doubtful whether this valve will permit sufficient air to enter to displace the oil when a tank is being "run."

Pipe line pumps have capacities of from 500 to 1000 cubic feet per hour. An equal amount of air, of course, must enter the tank to displace the oil. To pull 500 cu. ft. of air through this valve will, according to the chart, create a vacuum of 3¾ ounces within the tank. It should be remembered that for each ounce vacuum a 250-barrel tank must support upon its roof a dead weight of about 1800 pounds, and the deck of a 500-barrel tank 3700 pounds. With 3¾ ounces vacuum within a 250-barrel tank the weight upon the deck becomes 6774 pounds or over three short tons. Most valves are designed to release at approximately one ounce of vacuum and two ounces of pressure, but the operator should consider the capacity of the valves he installs upon his gas-tight tanks and ascertain whether they will permit a margin of safety in case of sudden surges of gas, oil heads, or rapid filling or emptying of tanks.

The use of larger valves is a safe precaution. An examination of curve E will show that the three-inch valve from which these data were obtained is capable of releasing 5400 cubic feet of gas per hour, without raising the pressure within the tank more than two ounces. This curve is somewhat similar to the curves of several three-inch of "large-size" valves

Curve B is of a valve that operates somewhat on the principle of the ordinary swing check valve. Its design con-

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fines its use to smaller volumes of gas. Curve C, is another two-inch valve of different design and has a little higher capacity on the pressure side, but a little less on its vacuum side than valve "B." It will be observed that an ordinary type two-inch swing check valve, curve D has considerable capacity. Check valves were found to hold pressure and vacuum exceptionally well, which can not be said of all tank valves. An operator contemplating the purchase of tank valves should ascertain if the valves leak. During the tests, some valves were observed to leak from 100 to 400 cubic feet of gas per hour before their valves "popped" or released.

Fred Smith, of the Ohio Oil Co., has equipped one of his tank batteries with two pairs of 1½-inch swing check valves, as an experiment. The tanks are all tied together and the oil production is small. The check valves, one for pressure and one for vacuum, are mounted to a tee which is screwed to the tank dome, one pair being mounted on each of the end tanks of the battery.

In the Mid-Continent field valves have been found corroded tightly to their seats. Several mechanical valves that have been in operation in Salt Creek for one year, upon recent examination, showed no indication of corrosion.

Apparently the only real danger to a valve in Salt Creek is its freezing in severe winter weather, due to moisture collecting on the valve seat. Chilled gummy substances if allowed to collect on a valve or its seat, may cause the valve to stick or become sluggish in operation and there is apparently very little evaporation of oil during cold winter weather, except when oil is steamed, and as there is no absolute assurance that tank valves will function properly under adverse atmospheric conditions, it would be safer to prop open thief-hole covers on gas-tight tanks during filling and emptying when atmospheric temperatures are extremely low, than to rely entirely upon a new and untried valve. A collapsed or "blown-up" tank is an expensive experiment.

At a number of tank batteries in Salt Creek gas-tight tanks have been connected together by means of manifolds, to which are connected two three-inch relief valves. The purpose of this is to economize on valves and as a precaution in case one of the valves should stick. In summer however, such an arrangement will allow the vapor pressure to be dissipated if any one of the thief-hole covers in the battery is opened.

Liquid seal valves used on tanks in this field should contain liquids that have low freezing points and will not become viscuous upon weathering. This type of valve requires more attention than the mechanical dead weight valve.

Spring valves are unsuitable for gas-tight tank purposes in Salt Creek. A spring tension will seldom remain constant, owing to the wide range in temperatures between summer and winter.

Any valve placed upon a gas-tight tank should be given careful attention

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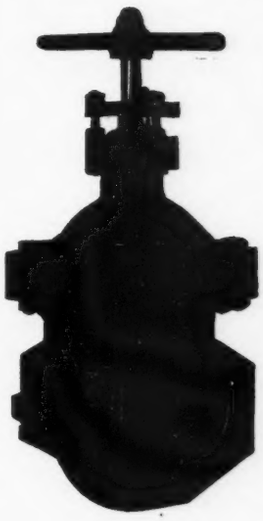

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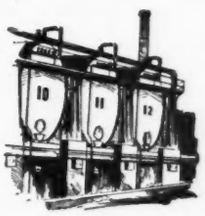

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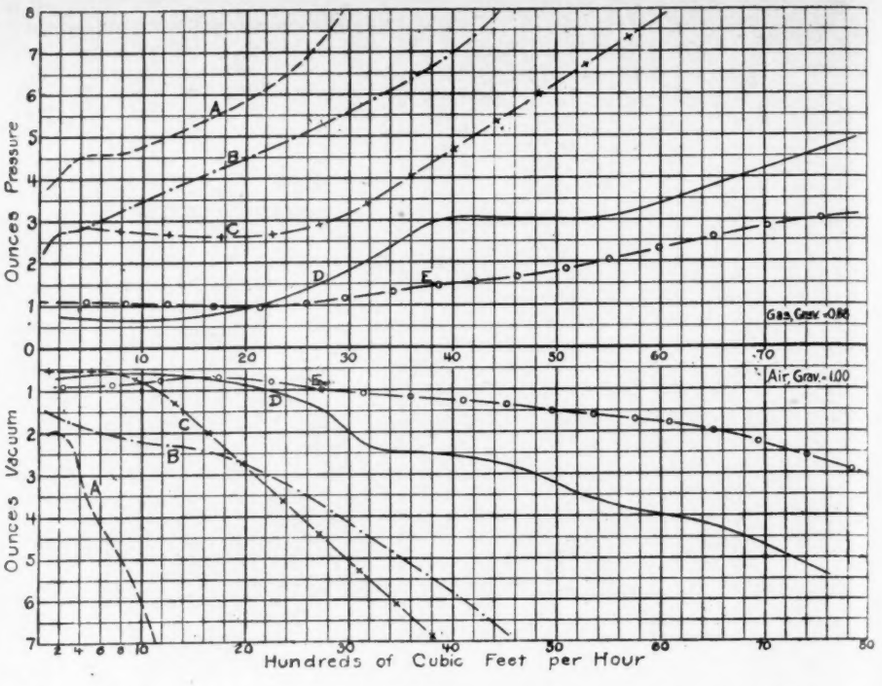

and inspected from time to time. The valves and seats should be kept clean.

Gas-Tight Tanks Make for Conservation

The prevention of oil field losses due to evaporation is one phase of conservation in which the government has long been interested. The use of gas-tight tankage as a means for reducing the evaporation losses is well recognized and has become standard oil field practice.

Actual field tests and observations indicate that large amounts of oil and therefore losses in revenue are caused annually in this field through evaporation. These losses are due, in summer to normal evaporation, in winter to "steaming" of oil, gathered and held in open (non-vapor tight) tanks. At the present writing only 4 per cent of the total field tankage from which oil is delivered to pipe line is gas tight. The Carter Oil Co. gas-tighted its field tanks in Salt Creek last summer and this year has seen considerable more progress in the installation of gas-tight equipment. Companies that have or are now gas-tighting tanks in this field are the Carter Oil Co., Ohio Oil Co., Continental Oil Co., Western States Oil & Land Co., Utah Oil Refining Co. and F. C. Bonfils.

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The DART JUNIOR fills the immediate demand of oil companies for lower priced pumps. It enables the replacement of old equipment with that which is most modern—at the lowest price at which any visible 10-gal. pump has ever been sold. Guaranteed in every way. Don't fail to get complete information about this pump—gladly sent upon request.

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PUMP DIVISION
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Fuel Oil Price Higher Than in 1924

WASHINGTON, Nov. 23.—Fuel oil prices paid by the big railroads of the country, in class I, other than switching and terminal companies, for use in their road engines, both freight and passenger, according to statistics for August of this year compared with August of last year, and for the eight months of this and last year, are shown to be consistently higher than a year ago, in all regions. The statistics are as follows:

District and Region	Gallons Consumed 1925	Gallons Consumed 1924	Fuel Oil Cost per Gal. 1925 Cents	Fuel Oil Cost per Gal. 1924 Cents	Total Cost 1925	Total Cost 1924
Eastern District:						
New England Region						
Great Lakes Region	827,159	789,874	5.95	5.82	849,212	846,004
Central Eastern Region						
Total, Eastern District	827,159	789,874	5.95	5.82	49,212	46,004
Southern District:						
Pocahontas Region						
Southern Region	5,827,942	2,844,276	3.89	3.81	226,874	108,484
Total, Southern District	5,827,942	2,844,276	3.89	3.81	226,874	108,484
Western District:						
Northwestern Region	18,337,384	18,336,657	3.56	2.83	653,445	519,437
Central Western Region	86,487,434	84,740,077	3.25	3.11	2,807,757	2,634,298
Southwestern Region	57,787,996	61,898,765	2.98	2.46	1,724,172	1,520,427
Total, Western District	162,612,814	164,975,499	3.19	2.83	5,185,374	4,674,162
United States	169,267,915	168,609,649	3.23	2.86	5,461,460	4,828,650

FOR EIGHT MONTHS ENDED WITH AUGUST, 1925 AND 1924

Eastern District:						
New England Region						
Great Lakes Region	2,877,057	3,134,952	6.02	5.99	173,153	187,722
Central Eastern Region						
Total, Eastern District	2,877,057	3,134,952	6.02	5.99	173,153	187,722
Southern District:						
Pocahontas Region						
Southern Region	47,405,046	34,740,444	4.05	3.51	1,921,205	1,217,825
Total, Southern District	47,405,046	34,740,444	4.05	3.51	1,921,205	1,217,825
Western District:						
Northwestern Region	135,891,003	141,361,841	3.33	2.87	4,527,967	4,053,225
Central Western Region	639,112,726	655,405,338	3.40	2.92	21,699,205	19,129,094
Southwestern Region	497,377,812	509,417,092	2.79	2.46	13,872,519	12,547,324
Total, Western District	1,272,381,541	1,306,184,271	3.15	2.74	40,099,691	35,729,643
United States	1,322,663,644	1,344,059,667	3.19	2.76	42,194,049	37,135,190

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SHAPED LIKE THIS

for Easiest Handling

The OVAL TOP and TAPERING OVAL container are the visible identifying marks of the genuine GREASE-PAK—the exclusive design features of this Bennett Specialty—distinguishing it from all other equipment.

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Chart Shows Glycerine Mixture for Radiators

NEW YORK, Nov. 19.—A cold weather chart of radiator capacities of all makes of cars and the amounts of distilled glycerine required as an anti-freeze solution has been issued by automobile clubs throughout the country to their members. This chart has been published by the chemical research department of Proctor & Gamble Co., 565 Fifth Ave., New York.

Standard tables of radiator capacities and the various quantities of distilled glycerine for each current make of car, to be used in three freezing temperatures, are provided in these charts.

The advantages of distilled glycerine, according to Proctor & Gamble, are that it is odorless; there is no fire hazard; it does not require pre-mixing by any user; it does not injure any finish of any car upon which it is spilled; it does not evaporate; it does not freeze; it does not injure the motor nor the radiator, nor does it attack the hose or pump connections; and, it has the advantage of not affecting Duco, used on a number of cars today.

The table appearing below has been prepared for those who purchase distilled glycerine and desire to prepare their own solutions:

Where the lowest temperature to be expected is:	Use a mixture of:
20° above zero	1 part glycerine, 5 parts water
10° above zero	1 part glycerine, 3 parts water
Zero	1 part glycerine, 2 parts water
10° below zero	1 part glycerine, 1½ parts water
20° below zero	1 part glycerine, 1¼ parts water
30° below zero	1 part glycerine, 1 part water

Cheap Fire Extinguisher From Spent Lamp

CLEVELAND, Nov. 19.—The news edition of the Journal of Industrial and Engineering Chemistry, Sept. 20 issue, carried the following instructions as to how to make a fire extinguisher out of a burned out electric lamp.

"A cheap and useful fire extinguisher may be made as follows:

"Procure a number of burned out electric light bulbs and a quantity of carbon tetrachloride, place the latter in a dish and insert one of the bulbs, take a pair of pliers and break off the tip of the bulb, taking care tip is under the surface of the fluid, then because of the vacuum in the globe, the liquid rushes in and fills it. After the globe is filled, the opening is closed with sealing wax to prevent evaporation of the fluid.

"When a number of globes have been filled a convenient and suitable rack may be made by boring holes in a board to hold them, and placed in a position where they may be easily gotten at. About one quart of fluid will fill six ordinary globes. The fire bombs have only to be hurled at a fire and will quickly burst, scattering the extinguishing fluid over the blaze. These extinguishers will put out a gasoline or petrol fire.

Atlantic Gets Its First West Texas Well

Staff Special

DALLAS, Nov. 23.—Atlantic Oil Producing Co., drilling in its No. 1 Ricker test, northeast of the Westbrook field proper, in Mitchell county, has brought in its first West Texas oil well. The well, which offsets a light producer of the California Co., on the Womack lease, made at the rate of 300 barrels daily initial production after a 300 quart shot. The well is in the southwest corner of the southeast of the southeast of Sec. 11, about one and a half miles northeast of the field proper.

The Atlantic's well is the best producer in the Westbrook field, which is now making nearly 2500 barrels daily; the bulk of the wells averaging 40 to 45 barrels per well per day on a fairly settled basis. These wells all produce from a sandy lime formation at depths varying from 2900 to 3000 feet.

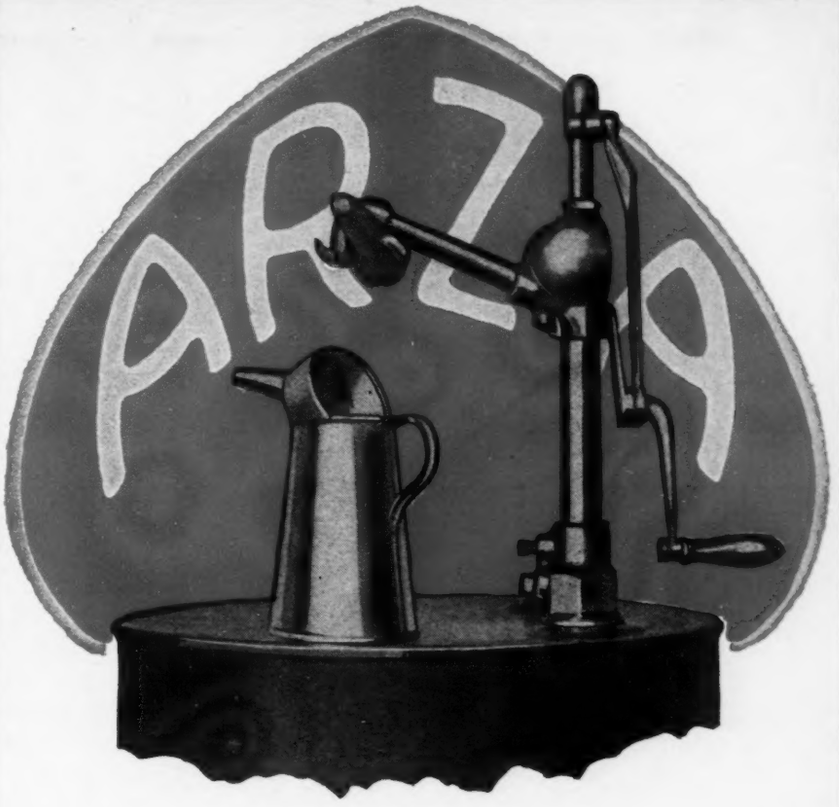
Seven miles southwest of the farthest south well in the Westbrook field the Magnolia Petroleum Co's. Foster discovery of the Iatan field is holding up to 155 barrels daily. It made 192 barrels daily maximum when the well was cased and tubed for pumping early in October. The Magnolia well flowed by heads at 2870 feet when first drilled in August 18 last, with about 1400 feet of open hole. Since being properly finished the well has never pumped off, because it is one of the few Mitchell county wells that have never been shot, its performance is regarded as unusually good.

Across the boundary to the southwest, in Howard county, the Choate & Henshaw test on the O'Daniel lease, on acreage out of the Marland Oil Company of Texas block, is reported showing for about a five barrel well below 2900 feet. A number of smaller shows were found in this test at higher levels. The well is roughly four miles southwest of the Magnolia well.

Australia Is Developing As Gasoline Market

CLEVELAND, Nov. 23. Australia appears to be developing rapidly as a future gasoline and motor oil market. Detailed export figures for September show that of the 18,780 passenger cars exported from the United States in September 4,640 went to Australia. In August, 4,163 of the 26,516 exported went to Australia.

Argentine ranked second in September as the destination of American passenger cars taking 2,281 but was first in August with 4,600. The cars going to Australia were mostly of the light class but valuation figures indicate that the proportion of medium and high priced cars was greater in the exports to Argentina.



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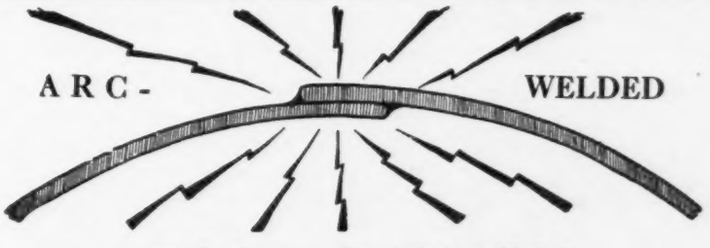

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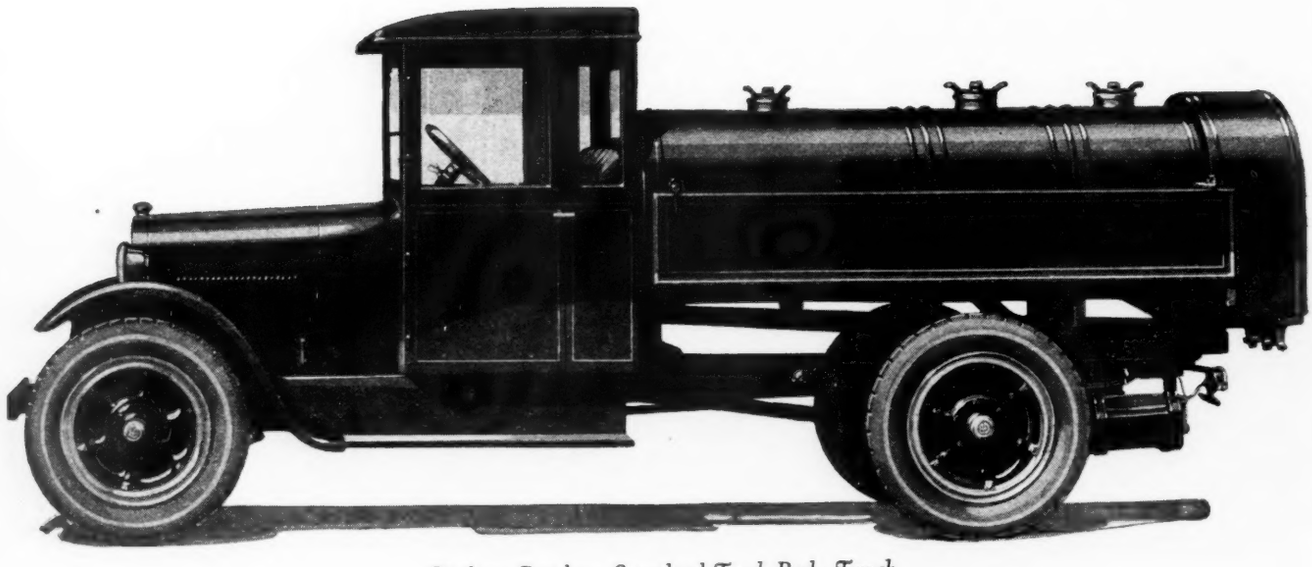

Graham Brothers Standard Tank Body Truck

THE series of which this is the first article was written after discussion of the operations of the patent office with patent lawyers and inventors who are thoroughly familiar by experience with the manner in which patents are obtained.

The ideas and suggestions set forth in these articles are to some extent a composite of the ideas and suggestions made by the various men with whom the writer talked about the subject.

The story next week will deal with the patent examiners, their training, where they come from, who they are and how they work. Later articles will take up suggestions for remedying some of the evils that exist in the administration of the patent law by the patent office and by the courts.—Editor.

Patents as Now Issued Do Not Protect Inventor Nor Industry

By Paul Truesdell
N. P. N. STAFF WRITER

Article No. 1

WASHINGTON, Nov. 21.

IN the minds of most people in the oil business and out of it, the patent law of the land and patent office procedure in general are fearful and wonderful in their mystery and complexity. This is particularly true in the field of cracking oil under pressure and in the natural gasoline field.

To an outsider looking in it appears that the mystery arises from lack of understanding by patent examiners and judges of "what it is all about" from the standpoint of the industries to which the patents and applications apply, and foggy thinking resulting from that lack of understanding. The complexity seems to be mostly one of words.

Because it seems to us that determination of whether a thing is patentable or not is really simple, although laborious.

"Is it new and useful?" the law asks." Will it work? Can a man expert in the art or industry to which the patent sought applies take the applicant's drawings and specifications and with no other guide, build a plant that will give commercially the results that the inventor claims for it?"

That is the test and it seems a simple test.

The fact that so many patents have been allowed, as nearly everybody admits, wherein the invention fails to measure up to some or all of these requirements, seems to be an indication that improvement in the procedure of the patent office is sorely needed, not only for the protection of the honest inventor but for the protection of the industry of the country against the scheming patent promoter.

The Test of Novelty

The phase of usefulness need not bother anybody. Everything probably is useful to some extent, although to see the utility of some of the devices that have been patented requires a considerable stretch of the imagination. The first and probably the worst place for the patent examiner to stub his toe is on the question of novelty.

If the thing has ever been patented before anywhere in the world it is not new. If anybody anywhere has ever described the thing or process in an article in a scientific journal or elsewhere in any country, it is not new. Neither can it be patented in the United States if it can be shown that it was in public use or on sale in the United States more than two years prior to the filing of the application for patent, whether a description of it had ever been published or not.

Theoretically, examination of every patent ever issued anywhere in the world and the careful scanning of every scientific and technical journal ever published would be necessary to establish absolutely the novelty of an inventor's or discoverer's claims. This, of course, is impossible.

But four things in the present patent office organization stand in the way of even a reasonably thorough search. They are:

1—The physical labor involved in proportion to the number of patent examiners there are to do the work.

2—The confused condition of the files and catalogs and their incompleteness.

3—Lack of knowledge of the art and understanding of the operations of industrial equipment on the part of the patent examiners.

4—Lack of knowledge of the languages of several important industrial countries.

As to the physical labor involved. As pointed out in a letter published in National Petroleum News last week, there are about 500 active examiners in the patent office. There are about 1,500,000 American patents, 1,000,000 British patents, 600,000 French patents, 450,000 German patents and 250,000 Canadian patents.

Thorough Search Impossible

This makes a total of 3,800,000 patents through which the examiners are constantly searching, or between 7000 and 8000 patents apiece for them on every application they handle. An able and experienced man can skip through perhaps as high as 1000 patents a day but really to detect possible anticipation he must study the text and drawings of many of them with what should be an understanding eye. This takes time.

To seach these patents thoroughly is a physical impossibility if the patent office force is to keep itself from being smothered under the flood of applications that pour in in increasing numbers every year as varied industries develop along many lines. And this takes no account of the mass of technical literature that should be searched as well as the patents themselves.

As to the condition of the files. The patents and other references are grouped into some 300 classifications. If these were anything like defined classifications, the job of the examiners would be easier, but the yare not. The apex of asininity was doubtless reached in classification when the application was made for a patent on the automatic gallows wherein the victim steps on a trap and hangs himself.

This interesting invention was classified under "Toys and Games," subdivision, "Exercising Devices." While this is funnier than most of them, it shows in what unlikely places a reference that might determine the patentability or otherwise of an invention, may be hidden from the eyes of the conscientious and hardworking examiner. It shows the caliber of thought in the administration of the office in general.

And to make matters worse, the classifications are constantly being changed, revised, divided, doubled up and otherwise scrambled so that with every change the difficulty of making anything like a thorough search becomes greater.

On the third point. Without a background of experience in actual industrial operations, even the incomplete search that physical limitations allow the examiner to make is often largely wasted. Because, working at high speed as he does and it seems that the only method of reform that suggests itself to patent office officials is more speed—he may and often does pass over anticipation in

the prior patents he examines that would invalidate the application he is considering.

Foreign Language Patents

On the fourth point. Besides the 3,800,000 patents before enumerated there are several hundred thousand that have been issued in Russia, Norway, Sweden, Roumania and other countries whose languages are not read by any of the examiners in the patent office. And in addition to those patents the literature of those countries is a closed book to the examiners. Then, in addition, to that there are every year a large number of patents issued in Belgium, a leading industrial country. The Belgian government does not publish the patents issued so that the file of Belgian patents in the American patent office is very sketchy indeed.

These foreign patents which virtually are hidden from the eyes of the American patent examiners perhaps do not offer quite as serious a menace to the validity of American patents that are granted as might appear because the great majority of inventions that are of importance are patented in more than one country. For instance, an invention patented in Belgium or Russia will probably be patented in the other leading industrial countries of Europe as well if not in the United States and therefore the invention will come into the patent office from the German, French or British offices.

However, this is not always the case and it is not always the case that the patent which does come into the American office is a duplicate of the one taken out in the country whose patents the American examiners do not see. So the chances of invalidity of an issued American patent because of anticipation shown in some patent that is outside the knowledge of the United States office altogether are always rather numerous.

An example of the harm that may result from a faulty filing and cataloging system is the granting of the Ellis patent on the tube and tank cracking process. This patent was issued despite the fact that a Russian patent said to cover the same ground was in the files of the patent office at the time, unknown to the searchers of the division which passed on the Ellis application. The chief examiner of that division stated later that the patent to Ellis would never have been issued if he had known that the Russian patent mentioned was in existence.

Chances of Invalidity

Thus it is seen that a patent obtained in good faith by an inventor may be invalid from several causes. First, the examiners through the pressure of physical work on them, assuming that all the patents and all the references needed to establish the novelty of the invention they are considering were at hand, may skip too quickly through the prior patents and miss some point on one or several of them that show anticipation or prior knowledge in the art that should have barred the granting of the patent.

Then, because of the fact that the classifications of patents and literature are so multifarious, not to say often irrelevant, that the examiner may not be able to locate important material bearing upon the validity of the application before him.

If he does have before him all the evidence of prior art that he needs to guide him in making a decision and does go through it all, it is quite likely that through his ignorance of the actual operation of industrial equipment he may fail to recognize anticipation of the claims in the patent before him when he finds it in an earlier patent or publication.

On top of all this, if the examiner goes carefully through all the literature and all the patents at his command that have any bearing on the application he is considering and finds nothing anticipating it, there still remains the fact that somewhere in the mass of foreign patents whose language he does not read, or in the literature of the art published in foreign countries there may be something that knocks the patentability of the invention he has allowed into a cocked hat.

Thus, after the examiner has done the best he can and has allowed a patent to an inventor, the specter of anticipation may later rise from one of these sources to plague the inventor and perhaps ruin or at least subject to great loss some company to which he has sold it.

While it is understood that the government cannot give a guarantee of validity with every patent, it seems to those closely concerned with the operation of the patent office, inventors, patent lawyers, industrial leaders and the like, that a patent ought to be of such a character that it would have the effect of inspiring respect in the minds of the industrial world generally and would tend more than do the patents being currently issued to prevent deliberate infringement.

In the mind of the inventor, the patent he has obtained means that he is secure in the monopoly of his invention for 17 years as the law says. And this should be true.

The individual or company, however, that desires to make use of the invention without paying royalty, and who by making use of it can perhaps increase its profits by hundreds of thousands of dollars a year, is generally not inclined to take the patent so seriously.

Such a company or individual is quite likely to put the invention into use at once, regardless of the patent. If the inventor is unskilled in business or lacking in financial resources, he may hesitate to sue the infringer. If he does sue he enters upon a course of litigation that may be well-nigh endless. As the case drags along, if he is poor, perhaps he is tired out to the point where he drops the suit altogether through inability to carry it on.

Or perhaps he listens, because of necessity, to the overtures of the infringing company's lawyers and finally makes a settlement with them greatly to his disadvantage and to the infringer's advantage. He is the more likely to do this because the attorneys for the infringers are quite likely to be able to dig up in prior patents or literature something that will show the inventor's idea was anticipated. This leaves the court with no course but to throw out the patent as null and void, leaving the inventor with no patent, no money and no recourse.

The point is that the examiners in the patent office should have found these anticipations that the defendants lawyers find, should have rejected the claim for the patent in the first place and thus saved all the trouble.

That more worthless patents are not issued is due in large measure to the practicing patent lawyers. When a man comes to one of them with an invention, the better lawyers, through their own corps of assistants, make the complete search of the prior art that the patent examiners should make officially and the high class lawyers refuse to prosecute a claim for a patent unless they are as sure as it is humanly possible to be that the claimed invention is actually new and sound and that a patent issued upon it will be valid.

Receivers To Sell Leases In Archer County

DALLAS, Nov. 24.—Bridwell & Heydrick, of Wichita Falls, have closed a deal with E. H. Eddleman, receiver for the Sunshine Consolidated Oil & Refining Co., whereby they acquire for a consideration of $159,000 important leases in the Sunshine State and Freeman-Hampton pools of Archer county.

Magnolia Petroleum Co., of Dallas, have bought from Barkley & Meadows 80 barrels daily of settled production on two tracts totaling 53 acres in the Northwest Extension area of the Burkburnett development area. These tracts are located in Secs. 74 and 75, Red River lands. One tract contains nine wells owned in their entirety by Barkley & Meadows. The other, containing 14 wells, was owned jointly by Barkley & Meadows on the one hand and the Magnolia on the other. Consideration was $72,500.

Humble Oil & Refining Co. has made a number of purchases in Wilbarger county, including the south half of the south half of the northwest quarter of Sec. 46, H. & T. C. survey and 40 acres in the northwest quarter of the southwest quarter of the same section. The consideration was $1,000 per acre in cash and $1,000 per acre in oil. Humble also bought two other tracts totaling 80 acres, these being the south half of the north half of the southwest quarter of Sec. 47, block 4, H. & T. C. survey, and the southeast quarter of the southwest quarter of the same section, for $1,500 cash and $1,500 per acre in oil.

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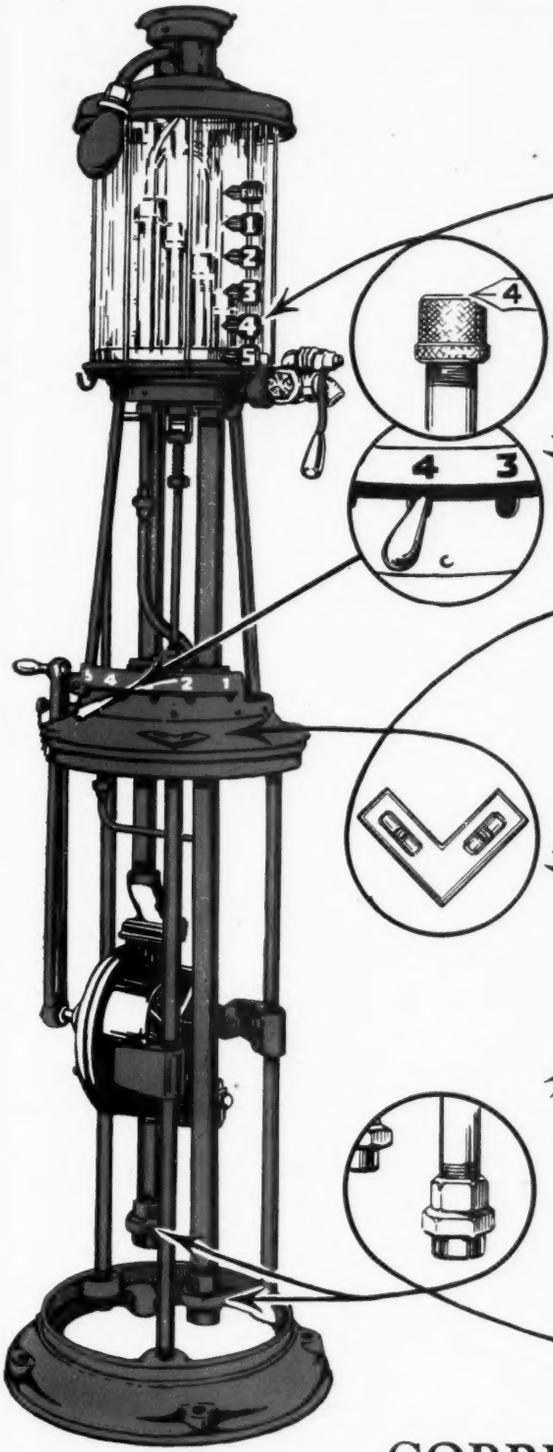

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Customers see measuring handle set to deliver the gallons ordered. Next they see it all go into their tanks. And speedily! Because, all of the measurements are top down from a full container, it is easy to sell a customer a container full, if his tank will hold it.

CORRECT MEASURE VISIBLE PUMPS sell at least 20% more gasoline.

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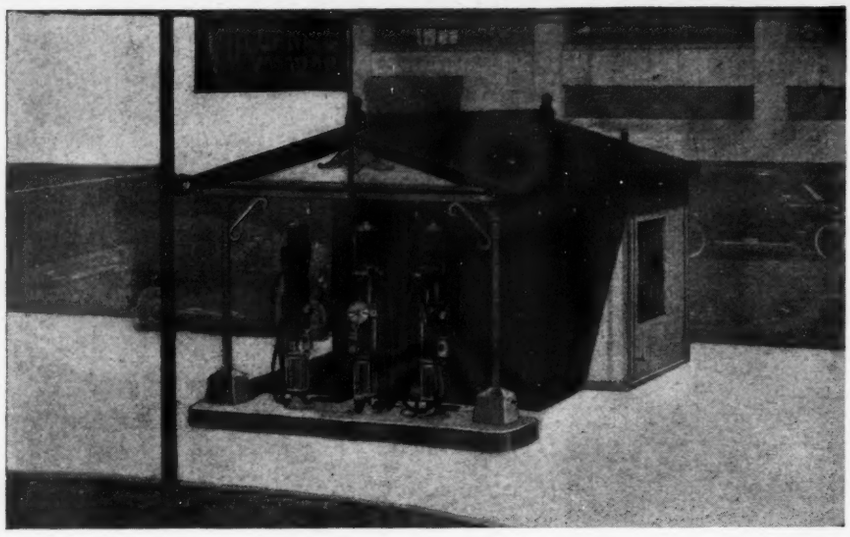

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San Antonio Gas Line Ready January 1

Staff Special

HOUSTON, Nov. 23.—Southern Natural Gas Co. of San Antonio is is reported from that place to have contracted with the O. W. Killam interests of Laredo for a supply of gas to come from the Bruni, Cole and Carolina-Texas fields. These fields are located along the physiographic area known as the Reynosa escarpment near the town of Mirando City and east of Laredo. The Killam interests own about one third of the oil production in this district and control a large part of the exploited gas territory.

Southern Natural Gas Co., which already has a gas pipeline from Three Rivers to San Antonio, will extend its facilities southward about 75 miles to the Carolina-Texas field and elsewhere in the Mirando territory. The extension facilities will consist of a 12-inch pipeline under construction by the Hope Engineering Co., at a total cost of about $2,300,000. It will have a capacity of 25,000,000 cubic feet daily and is to be completed by January 1.

It is announced from San Antonio that this line, after its completion date, will supply sufficient gas to avoid the necessity for shutting down industrial plants through the winter months, a condition that has previously existed at times.

The Carolina-Texas field now has 14 gas wells producing from three sands at 2100, 2500 and 3000 feet. Present rock pressures range from 650 to 950 pounds. Sand thicknesses at the producing levels are, respectively, 35, 25 and 30 feet. Wells have reported initial open flow capacities of 15,000,000 to 80,000,000 cubic feet daily. About 3500 acres of ground has been proved for gas production and the total estimated available reserves figured down to 85 pounds absolute pressure is 100 billion cubic feet.

In the Cole-Bruni field about 1200 acres of productive ground has been proved by eight completed gas wells. These produce from a single sand at approximately 1700 feet, but undoubtedly the field is underlain by other productive horizons. Present rock pressure of these wells averages 550 pounds. Open flow gauges of gas production range from 25,000,000 to 44,000,000 cubic feet per well daily. Available reserves are figured at five billion cubic feet.

LITTLE ROCK, ARK.—E. R. Russell Oil Co. has opened a new five pump service station here. The station is modern and attractive, according to W. S. Stafford, general manager.

ARGYLE, WIS.—Smith Bros. have opened a service station here, handling Standard Oil Co. of Indiana products, reports M. Phillipson, agent for the Standard here.

Adopt Code of Marketing Ethics and End Old Price War

By Ward K. Halbert
N. P. N. Staff Writer

Staff Special

KANSAS CITY, Nov 23

CULMINATION of the ancient "Kansas City Price War" on Oct. 28 is entitled to entry in the annals of the oil industry somewhere close to the account of the supreme court's decision in South Dakota ruling the state out of the gasoline business. Nevertheless the official scribe of the trade should keep his pen wiped and his thumb at the place, for there is still a great deal to be written on the pages devoted to Lincoln, Neb., and Peoria, Ill.

National notoriety has been given to the affairs of the oil industry in South Dakota and Nebraska because of the prominence of Senator McMaster and Governor Bryan in the nation's politics. The war in Illinois has caused the oil trade at large some concern, because it looks like a nemesis, in that a big successful business institution has set about vindictively "to Montgomery-Roebuck the oil business" for its own temporary profit. But the Kanas City affair has gone along in seclusion for the most part.

Most of the scandals in the oil industry that have been dragged out of the dark and aired recently have been the products of outside interference but not so, seemingly, in Kansas City. It was just an old-fashioned price war where competing companies pitted their organizations against each other, staked their last dollar on the outcome and yelled "Lay on, McDuff." Just about every oil man in town has been obliged to participate in it to some extent to protect himself, and yet it is so old that some of the younger men don't know how it all started.

Some of the old-heads relate that this particular war has been in progress in Kansas City since the spring of 1923, beginning shortly after the convention of the National Petroleum Marketers' Association here, and that it has continued ever since over periods of varying intensity. sometimes smoldering low and sometimes blazing up fiercely, according to the condition of the market and the general health of the industry. But be that as it may, the Kansas City jobbers have signed their treaty.

"A code of ethics of unusual pungency was promulgated," writes George S. Allee, secretary of the Missouri Oil Men's Association, to his members under date of Nov. 2. "The price war in Kansas City is over and the town is just as clean, from a marketing standpoint, as any city in the country. The Kansas City price war ended just like all such wars do, to wit, the jobbers paid the bill while a thankless public rode on cheap gasoline and laughed inwardly at the oil man's folly."

According to H. G. James, president of the Missouri Oil Men's Association, jobbers in Kansas City who used to be willing to walk around a city block to avoid speaking to each other are now on handshaking terms. All the oil men have met and eaten a meal together. The hatchet is buried and the platform upon which the oil men made their agreement is reproduced herewith. It is a code of ethics of 19 points, adopted and being scrupulously lived up to by the Kansas City gasoline merchants. It follows:

(1) The Quantity Discount Agreement is disapproved in fact and in principle. It is held to be unethical and demoralizing. But since it is an injected factor it may be used, but it is recommended only when necessary to meet competition. It is urged that no subterfuge be invented to compete with it.

(2) Issuance of long distance credits (other than local) is frowned upon as conducive to attendant evil practices.

(3) The practice of forming clubs for the purpose of taking advantage of the Q. D. A. is emphatically and unequivocally condemned as unethical, unfair and demoralizing.

(4) The giving of discount on any kind of coupon books is unsparingly condemned.

(5) Adding coupons to a book is as unethical as selling coupon books at a discount.

(6) The practice of giving discounts on large quantities of coupon books, to meet the Q. D. A. is construed as unethical and condemned.

(7) Rebates of whatever kind or description on inventory declines, or otherwise, or selling on pump meter readings, will not be considered ethical.

(8) No ethical company will furnish signs on a rental basis, or with other allowed compensation.

(9) It shall be unethical for any person or company to utilize equipment furnished by other companies, and fill the same with a different grade or brand of product.

(10) Sell no gasoline to garages, privately owned filling stations, drive-in or otherwise, on any basis lower than the established regular tank wagon price on date of delivery, or the Q. D. A. schedule.

(11) Payment of rentals either in cash, coupons, or otherwise, to tank wagon customers, whether garages, service stations, or others, for the use of equipment, sign space, or for any other purpose, shall not be considered ethical

(12) It is deemed bad practice and condemned to fill cars, trucks, or fleets of trucks, at filling stations, or elsewhere, at any other than regular filling station prices, except on Q. D. A.

(13) Definite unethical practices involve the filling of trucks and passenger car tanks upon city streets and highways, except in cases of obvious emergency; the giving on anniversaries, opening days, and similar occasions, of gifts, prizes, premiums (including lubricating oils), of any character or description whatsoever; likewise selling gasoline at tank car prices, plus small cartage.

(14) The practice of selling gasoline in truck loads to persons not having their own tank car storage, for the purpose of distributing the same in other towns at cut prices, is condemned as unethical and detrimental to healthy industrial condition.

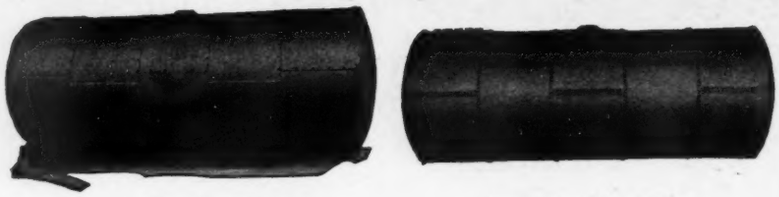
(15) The giving of lub oil in any quantity whatsoever as a token, or a gift, or a subsidy, or for any other purpose whatsoever, will not be regarded as good marketing, or friendly to competitors.

(16) It is held unethical to make yard sales except at established tank wagon prices or on Q. D. A.

(17) The petroleum code of ethics strenuously condemns the practice in any form whatsoever, of any sort of private rebates or special concessions.

(18) No code of ethics can embrace every subterfuge, or violation of good practice that might be conjured up. This code of ethics shall be construed as embracing everything that might be hurtful or recognized as contrary to the highest standards of petroleum marketing and good sound business practice. It condemns acceptance of rumor for fact. It advocates a policy of co-operation and investigation before acting upon reports of evil practices.

(19) Every oil man who seeks the welfare of the petroleum industry and the best interests of all concerned will abstain from misleading statements and scorn subterfuges or any other tactics that might be construed as unethical and unfair, either to the industry or to the community the industry serves.



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IT is true that "YOUNGSTOWN" Tanks are cheaper than many others of inferior specification. This is due to our immense production and the fact that all steel from which our tanks are made is cut in STANDARDIZED sizes, thus entirely eliminating waste in raw material and non-productive labor.

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"KEENE TANKS MADE"
STANDARDIZED
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More than 200,000 "Youngstown" Tanks in Service

Oil And Grease Formulas

200 formulas, modern in every particular, have been prepared in a simple, non-technical style by Forrest A. Hoff.

They are of value to the refiner, jobber, compounder, broker and lubricating engineer.

Just attach your check to this ad and return it to us now. $50 is the reasonable cost of all this valuable information. Synopsis sent upon request.

National Petroleum News
830 Caxton Building **Cleveland, Ohio**

New Oil Station Construction

Rushville, Neb.—Larry Memmett purchased site for filling station. William Hewett also building filling station.

* * *

Wellington, O.—L. G. Bradstock and his associates in the Wellington Flour Mills, are building filling station.

* * *

Oklahoma City, Okla.—J. B. Gabben building filling station, to be operated under name of Merchants Oil Co.

* * *

Howard, Kan.—J. W. Eby erecting filling station which will be operated by Peerless Oil Co., of Chanute.

* * *

Harrison, Ark.—C. W. Capps building filling station, which will be operated by W. R. Keesee.

* * *

Grant City, Mo.—Lyle Spencer, Redding, Ia. purchased lots at Grant City for filling station.

* * *

Perry, Okla.—Ross Seton building filling station, to be known as Pennant Service Station.

* * *

Sleepy Eye, Minn.—Brown County Co-Operative Oil Association to erect filling station.

* * *

Jefferson City, Mo.—Capital City Oil Co. to build filling station here next spring.

* * *

Eddyville, Neb.—Better Service Oil Co. purchased site here for filling station.

* * *

Fergus Falls, Minn.—Standard Oil Co. of Indiana buys property for filling station.

* * *

Charles City, Ia.—C. G. Gray, of Purity Oil Co., building filling station.

* * *

Lynchburg, Va.—Standard Oil Co. of New Jersey building filling station.

* * *

Tipton, Ind.—Ora and George O. Fouch building filling station.

* * *

Newkirk, Okla.—Marland Refining Co. building filling station.

* * *

Manhattan, Kan.—Henry Smethurst to build filling station.

* * *

Warsaw, Mo.—Walter Morgan building filling station.

* * *

Toledo, Ia.—LaVerne Cooper completing filling station.

* * *

Dothan, Ala.—Robert Cox to erect filling station.

* * *

Salisbury, Mo.—E. M. Fidler to build filling station.

SCOUTING The LOBBIES

ROBERT STEINSCHNEIDER arrived in the United States recently from Roumania to see at first hand the methods employed in this country in refineries and machine shops. Mr. Steinschneider is chief engineer for the Romana Americana, the Roumanian subsidiary of the Standard Oil Co. of New Jersey. He is accompanied by his wife on this journey, and will sail early in December, bound for home.

A stop was made in Cleveland to visit H. H. Fleming, general manager of the Oil Conservation Engineering Co., the well known "Oceco" people. This visit was a reunion of former associates. Mr. Fleming for several years held the position now occupied by Mr. Steinschneider, the latter being assistant chief engineer. Some three years ago Mr. Fleming returned to this country.

Mr. Steinschneider is an Austrian, formerly a resident of Vienna, and he was an officer in the Austrian army during the war, returning at the conclusion of hostilities to his old place with the Romana Americana. Things had changed considerably when he got back. Under the direction of British officers, the fields and refineries of Roumania were destroyed just before the forces of the Central Powers came in and among the properties reduced to ruins were those of the Standard. The Germans partially restored the fields to production and rebuilt some refineries, but their work was of an emergency character and when the Standard finally came back in there was a big job to be done.

Headquarters of the Romana Americana are at Ploesti, where the 12,000 barrel complete refinery is located and at this place the company maintains machine shops which are said to be unsurpassed by any oil company shops in the United States. Much of the equipment for the refinery and the producing properties is made in the shops, including steel derricks and drilling equipment. Management of these shops is part of Mr. Steinschneider's numerous duties, which include refinery management and a considerable portion of production supervision. His travels in the United States took him into the Mid-Continent where he looked over refineries and fields and he has spent considerable time viewing the Atlantic seaboard plants.

A sizeable Romana Americana camp, or town, is located at Ploesti, the population including about a dozen American families and about thirty of other nationalities.

Roxana Gasoline men at Garber. Left to right: Charles Haughwout, portable plant operator; H. H. Gordon, construction engineer; and C. E. Smith, superintendent. In rear, A. F. Hinton, National Petroleum News staff writer.

A YEAR ago when C. E. Smith took charge of natural gasoline plant operations for the Roxana Petroleum Corp. in the Garber field the company had at that place a two unit plant making 1,400 gallons per day. On the Shroeder lease there were 17 shallow wells making a half million cubic feet of casinghead gas daily. As Mr. Smith says, "It was an event when a stranger crossed our quarter section lease."

Today the lease is just about the busiest place in the Mid-Continent field. The two unit natural gasoline compression plant has grown until its boasts of five units, two portable oil absorption plants are on the ground and three more are on the way to process the 20,000,000 cubic feet of gas now available on the one quarter section as a result of the deep drilling.

The accompanying snapshot shows Charles Haughwout, portable plant operator; H. H. Gordon, construction engineer; and Mr. Smith, reading from left to right. In the rear is A. F. Hinton, National Petroleum News staff writer. The group formed at the pressure gauge on the gas intake to devise a remedy when pressure was fluctuating widely with the rate of flow of the deep sand wells.

JACK SHANNON, whose generalship is responsible for the Snowden & McSweeney properties showing a profit in the producing fields of the southwest, likes to tell a story when his frequent trips in and out of Fort Worth permit.

Shannon, who has followed oil development westward from Pennsylvania and Ohio, likes to tell this one about a conversation that took place years ago in Lima, Ohio:

The late Dan O'Day, then in charge of Standard Oil pipelines at Lima, sat in his office one afternoon when Joseph Seep of the Purchasing Agency entered. Mr. O'Day was downcast and glum. "Uncle Joe," as the industry has come to call Mr. Seep affectionately, wanted to know the reason.

Mr. O'Day then unburdened his soul. The pipeline system which he operated had nothing like enough oil available to fill it to capacity and he expressed his fears in no uncertain terms that very soon it would be necessary to take up the pipelines or allow them to rust away from disuse.

"Where is the oil to fill the pipelines coming from?" he wanted to know.

"Uncle Joe" is credited with walking over to a map hanging on the wall and pointing to the nation as a whole, saying in effect if not in these actual words:

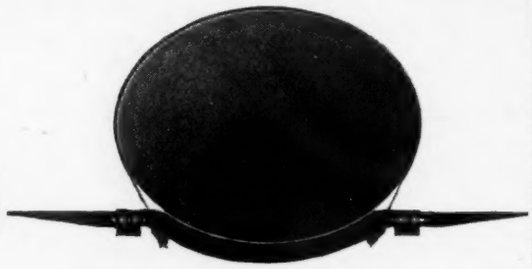
"Do you see all those states that are not now producing oil? That's where it is coming from. Get a good night's sleep, eat a hearty breakfast in the morning and see if the sun doesn't shine brighter."

WHEN a man has spent the best part of his working life in one business and has made an outstanding success of it, it is pretty hard to keep him out of that business even when he sells out with the determination to retire and enjoy himself.

It seems to have been that way with John Hancock. Lots of oil men know John as one of the front rank pioneers of the drive-in filling station. If he didn't establish the first one in the country in his home city of Minneapolis, he at least was one of the first to see its possibilities and to begin serving gasoline to the motorists by that method.

And he set a hot pace for competitors the way he acquired favorable sites and put up service stations in the Twin Cities, St. Paul and Minneapolis. It was pretty nearly 20 years ago that he and his brother Luke founded the Pure Oil Co. in Minneapolis which was bought out some years ago by the big Pure Oil Co. with headquarters in Columbus, O.

And an item in the Minneapolis Tribune shows that John is at it again. It states that the John Hancock Oil Co. began business 18 months ago with three filling stations. Now the company has 46 stations scattered over the Twin Cities. Fred Sefton, who was associated with the Hancocks in the old Pure Oil Co. is vice president of the new concern and Perry Sanborn, also an old associate, is secretary.



Detail of Butler Steel Mounting

Butler Steel Mounted Truck Tanks

(Elliptical and Semi-Rectangular)

have 12-inch sill adjustment!

In an emergency or when you want to change, you needn't worry about chassis width when you have a Butler *Steel* Mounted Truck Tank. At the end of each cross bolster are four holes for supporting bolts to provide different widths for each chassis. Note this feature in illustration above. On account of its adjustability, the mounting can be made to fit any chassis from 30 to 42 inches wide! That's 12-inch adjustability.

Steel gives the mounting enduring strength. Flexibility is provided by the method of attaching tank to mounting. Note illustration above.

Butler Tanks are sand blasted! This gives the steel a smooth finish. When the lacquer enamel finish is applied on this even surface a beautiful job is produced—a job similar to that on the finest automobiles!

Some of the other Butler STEEL Mounted Truck Tank features are: bilged heads and partitions, double partitions, 14-inch screw manholes, 6-inch fill openings, special plugs with handles and full flow triplex air vents. Butler Emergency Valves, LOCATED IN THE PIPELINE, are standard equipment.

Full details on request. Butler features make the steel mounted tank more durable but flexible. It will pay you to get full information.

Other BUTLER Products

Ready-Made Steel Buildings, Wood Mounted Truck Tanks, Cans, Buckets, Underground Tanks, Funnels, Storage Tanks, Measuring Pumps, Etc.

New COMPLETE Catalog

A new complete Oil Supplies Catalog has just come off the press. 96 pages, illustrated in 4 colors. Copy sent on request.

TRADE STEEL BUTLER PRODUCTS MARK

Butler Manufacturing Co.

Kansas City, Mo. **Minneapolis, Minn.**

Buchanan To Direct Drive To Finish Hospital

TULSA, Nov. 19.—D. E. Buchanan, vice president of the Chestnut & Smith Corp., has been appointed general of the active campaign now being started in Tulsa to raise funds with which to complete St. John's hospital. He will direct the drive activities of approximately 320 men, working in four divisions, each of which will consist of eight companies of ten workers each. Thomas Chestnut, president of the Chestnut & Smith Corp., is chairman of the executive committee, which consists of 107 persons, of whom nearly one-half are oil men. Edward F. McIntyre, general manager of the International Petroleum Exposition, is manager of the campaign, which is housed in downtown quarters under the name "Finish St. John's Hospital."

Inasmuch as Tulsa's industrial life is linked up so closely with the oil industry, every large civic enterprise finds oil men prominently identified with it and the hospital, especially, is a project in which oil men are interested. In fact, the drive is being conducted under the slogan of "An Oil Man's Hospital." Owing to present inadequate hospital facilities in Tulsa, men injured in the oil fields or otherwise needing hospital care, are usually taken to Kansas City or Oklahoma City, while many people from Tulsa itself are forced to go to other cities when it becomes necessary for them to go to a hospital. This condition will be remedied by the completion of St. John's hospital, which will be large and modern in every respect.

Mr. Buchanan, who is one of the outstanding figures of the general gasoline industry, is also prominently identified with the business and social life of Tulsa. He is a former president and now a director of the Association of Natural Gasoline Manufacturers, a director of the American Petroleum Institute, a director of the American Oil Men's Association and a director and member of the executive committee of the Western Petroleum Refiners' Association. He is a Mason, a member of the Tulsa Chamber of Commerce and a member of the Kiwanis, Tulsa, and Tulsa Country clubs.

The following active oil men are members of the executive committee, in addition to the chairman: L. D. Armstrong, D. W. Bell, Charles F. Bisett, O. V. Borden, W. M. Bovaird, Charles E. Braden, Bob Bradshaw, Burt H. Collins, E. L. Connelly, D. F. Connolly, George Coyle, J. E. Crosbie, M. E. Davis, C. F. Farren, J. P. Flanagan, J. B. Foster, W. C. Franklin, James E. Gardner, R. A. Griffith, F. J. Hinderliter, B. E. Horrigan, Wade H. James, Hugh King, Jr., J. J. Keim, J. D. Lemex, Julius Livingston, John M. Lovejoy, Pat Malloy, R. Otis McClintock, J. H. Markham, Jr., Thomas P. Melvin, Lee C. Moore, H. L. Phillips, Waite Phillips, J. L. Shakely, R. C. Sharp and W. G. Skelly.

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AUTHORIZED SALES AND SERVICE OHMER PRODUCTS

Accurate, reliable, infallible mileage records as a basis for a positive control of truck operating costs—that's what scores of leading oil companies are getting through the use of this improved mileage recorder.

The Ohmer Odometer is especially designed for the hard, gruelling service incident to truck operation.

It is built for utility. Rugged and strong, it stands rough usage. Its big figures, always in perfect alignment, show at a glance the cumulative mileage total.

It is built for long life. It is a marvel of mechanical simplicity. The small number of parts are big and strong. They are driven from the transmission, and move with only 1/8 the speed of an ordinary speedometer. This results in a long life of trouble-free service. There is nothing to break—nothing to wear out.

It is built for convenience. It is easily and quickly installed wherever you want it—on dash, floor, seat support, or outside frame. And once installed, it requires no further attention.

Back of it are 26 years of engineering experience and manufacturing resources in the developing and perfecting of various precision recording instruments. It is a product of the largest manufacturer in the world of mileage and fare recorders.

Get more of the details of this remarkable Odometer. See for yourself why so many of the largest fleet owners have adopted it as standard equipment. Find out how it is saving money for them, and why it will *save money for you.* Write now for descriptive folder and copy of our free book giving a simplified system of truck cost accounting. There is no obligation of any kind.

OHMER FARE REGISTER CO.
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ODOMETER

BLACKMER PUMPS BASICALLY SOUND

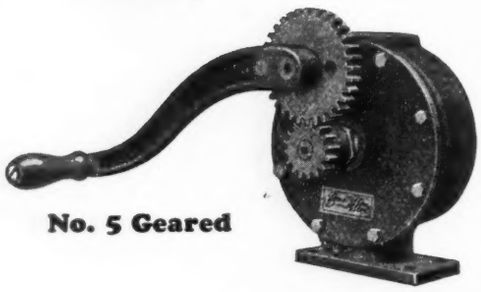
No. 7

Capacity, ½ gallon per revolution. Its heavy construction makes it an efficient pump for handling heavy liquids. It is designed with a base for mounting thus taking all strain off the pipes.

OVER twenty years ago a newly discovered application of an age old hydraulic principle was incorporated in the first Blackmer Rotary Pump.

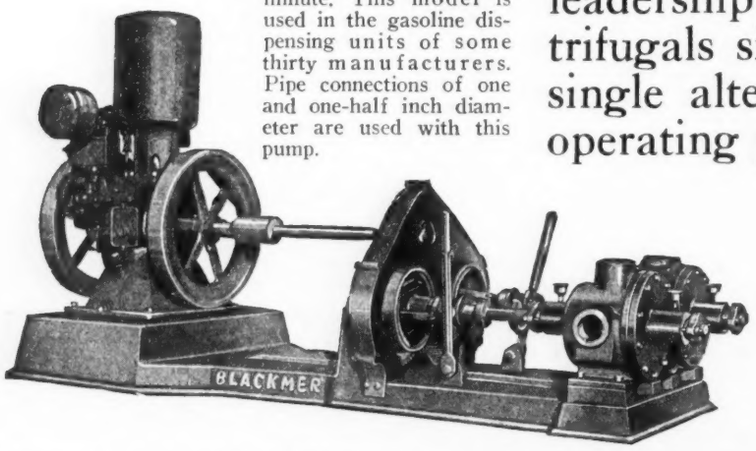
This Principle utilized centrifugal force in such a way as to enable the pump actually to compensate for virtually all its internal wear, and thus overcome at one stroke the greatest foe to pumping efficiency—slippage.

So basically sound was this Principle that the Blackmer has maintained its leadership over other rotaries and centrifugals since its inception, without a single alteration of this fundamental operating principle.



No. 5 Geared

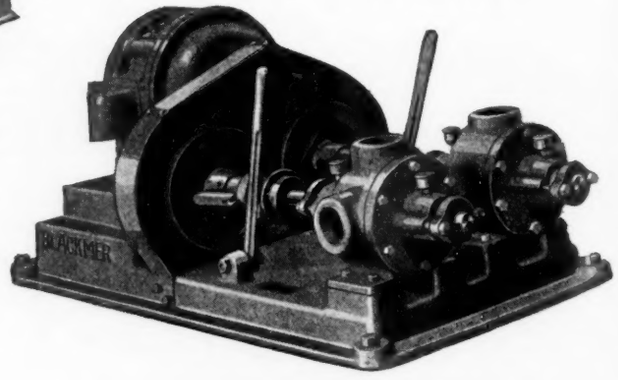
Capacity, 30 gallons per minute. This model is used in the gasoline dispensing units of some thirty manufacturers. Pipe connections of one and one-half inch diameter are used with this pump.



Blackmer Standardized Double Unit with space for Fire Wall. Powered with Novo water-cooled Engine. Capacity, 50 or 100 G. P. M. per pump. This arrangement is well suited to handling hazardous liquids where extraordinary precaution is desirable.

The Standardized Double Unit, pictured above, consists of two 100 G. P. M. Blackmer Pumps, one right hand and one left. It is mounted with clutches and power plant on an extra-heavy cast iron base with space for a Fire Wall. The power for any of these Standardized Units may be either of three types, as the customer desires: 2 to 5 H. P. electric motor, 2 to 4 H. P. Novo Engine, or 3 to 5 H. P. New-Way air-cooled Engine.

Blackmer Standardized Double Unit with Electric Motor. Capacity, 50 or 100 G. P. M. per pump. An efficient Unit for any installation.



Boyce & Veeder Put Out Anti-Freeze Product

NEW YORK, Nov. 17.—Boyce & Veeder Co. have announced the putting on the market of an anti-freeze solution for automobile radiators. The name of the mixture is Permo.

The announcement does not state what the product is made of but the claims made for it are very similar to those made in a recent announcement of Proctor & Gamble of their glycerine anti-freeze solution, Ivo. So the indication is that the Boyce & Veeder product is a glycerine mixture. Here is what the announcement has to say in part:

"Permo is not a by-product, but a scientifically prepared compound, perfected after many months of experimentation in the laboratories of Boyce & Veeder Co., combined with consultation with leading American chemists, scientists and laboratories specializing in lines of investigation bearing upon the various problems which face the producer of a really efficient anti-freeze solution.

"Permo protects the radiator all winter on one filling, retains its non-freezing qualities undiminished from September to May, keeps the water thin so that engine heat remains nearest full efficiency. It does not evaporate even in warm weather or when the radiator steams.

"Permo is absolutely harmless, non-corrosive, non-poisonous, non-combustible, and can be stored without fire hazard. Hose connections, nickel and other metal surfaces are safe with Permo. and even Duco and other finishes which are ruined by alcohol are not harmed at all by Permo. You can spill a whole canful over them and merely wash off with water, leaving no ill effects whatever.

"In fact Permo exactly fills the Bureau of Standards' correct specifications for an anti-freeze radiator compound. Actual tests on various makes of cars have proved its outstanding advantages. It gives the car that perfect winter protection so eagerly sought for by the leading motor car builders."

Panhandle Producer Makes 1000 Barrels

FORT WORTH, Nov. 17.—The test of McElroy Brothers on the Smith land, section 5, block YM&C, Hutchinson county, in the Texas Panhandle, is the most important recent completion of the Amarillo district. After being shot with 210 quarts of nitro-glycerin at 2772-2844 feet the well increased its production from 100 barrels to 1050 barrels daily. Top of the lime formation had been previously logged at 1960 feet.

Another good well in Hutchinson county is that of J. R. Phillips and others, No. 2 Kingsland, in Sec. 6, block YM&C. It is swabbing 650 barrels daily at a total depth of 2905 feet. It had the sandy lime and granitic wash formations at 2780-2786 and 2824-2847 feet.

THE WHY of WACKMAN WELDED WARE

THE POPULARITY of Wackman Steel Barrels has nothing to do with Wackman economy.

TRUE—Wackman Steel Barrels cost no more or less than various other shipping Containers.

BUT—That is merely secondary to the absolute shipping satisfaction obtained in the use of Wackman Steel Drums.

Our rigid avoidance of waste is but emphasized in our service to the Oil industry based on thrift and concentration to our business.

Make it a habit to ask for a Wackman quotation on your drum requirements.

Ask for facts—and a sample container any time.

WACKMAN WELDED WARE COMPANY

7th & Victor Sts., ST. LOUIS, MO.

Sou. Pac. Tracks & Sawyer St. HOUSTON, TEX.

"The Largest Small Company in the Barrel Industry."

Can You Always Put Your Hand On a Good Reference Book?

You can, if you own a set of the AMERICAN PETROLEUM INDUSTRY by Bacon and Hamor.

But if you are trying to get along without it, you are doing without two volumes of information carefully planned and arranged in such a way as to make them valuable reference books, of interest to the engineer in practice as well as to the research worker and student. Both volumes are illustrated throughout and cover the chemistry, geology, technology, history and economics of the subject thoroly.

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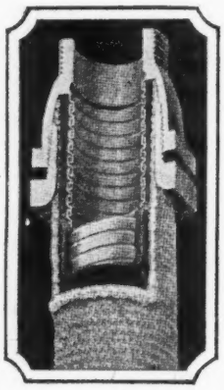
REX Hose Is Flexible
In Cold Weather



Flexibility in a hose means ease in handling—particularly so when it's snowing and cold as "blue blazes."

UNUSUAL flexibility is one feature for which REX Gasoline Hose is preferred. Its users have found that Rex is easier to drain and thereby speeds up service. Its very flexibility adds to the life of not only the hose but also the coupling, by easing the strain.

The flexibility in REX Hose does not come from any ONE element. The packing of the interlocking steel core, the high quality rubber cover, the strongly woven outer jacket, all contribute to the flexibility and combine into this most durable gasoline hose.

REX Gasoline Hose and REX-Bell Couplings are GUARANTEED to give absolute satisfaction. Try them—you'll never use any other make. Send for our prices and literature.

Chicago Tubing & Braiding Co.

260 N. Clinton St., Chicago, Ill.

REX GASOLINE HOSE - REX BELL COUPLINGS
Guaranteed to give Satisfaction

Help Your Salesmen

to acquire a working technical knowledge of the selection, application and use of lubricants, by ordering for each one a copy of the PRACTICE OF LUBRICATION by T. C. Thomsen.

It discusses the origin, nature and testing of lubricants and every phase of lubrication engineering.

It is $6 a copy. Make your check payable to—

National Petroleum News

825 Caxton Building Cleveland, Ohio

Engineers Club To Hold Meeting

PHILADELPHIA, Nov. 18.—Charles E. Billin, secretary of the Engineers Club of Philadelphia, has sent out an announcement that a meeting will be held at the club quarters, 1317 Spruce street, on February 16, at which the general subject under discussion will be "Conservation of Power in Industrial Plants." There will be three sessions, morning, afternoon and evening.

The tentative program for the meeting is as follows:

"When is the Private Power Plant Justified?" by David Moffat Myers, consulting engineer, New York.

"Operating a Private Power Plant in Competition with Purchased Power," by Thomas V. Balch, supervising engineer, Equitable Office Bldg., New York.

"When is Purchased Power Justified. Name of principal speaker not yet determined.

"High Pressure Prime Movers in Industrial Plants," by J. F. Johnson, Westinghouse Electric and Manufacturing Co.

"Use of Exhaust Steam for Process Work in Textile Plants," by Samuel M. Greene, consulting engineer, Springfield, Mass.

"Heat Insulation," by L. B. McMillan, chief engineer, Johns-Manville, Inc., New York; R. H. Heilman, Mellon Institute of Industrial Research, Pittsburgh.

"Power Transmission Economies," by William Staniar, transmission engineer, Du Pont Co., Wilmington, Del.

"Lubrication and Bearings," by John D. Gill, Atlantic Refining Company, Philadelphia.

"Plant Illumination." Name of the principal speaker not yet determined.

"Economy in the Use of Power." Under this head there will be addresses on "Load Factor," Power Factor," "Economical Voltages."

Dubuisson Heads Wolverine

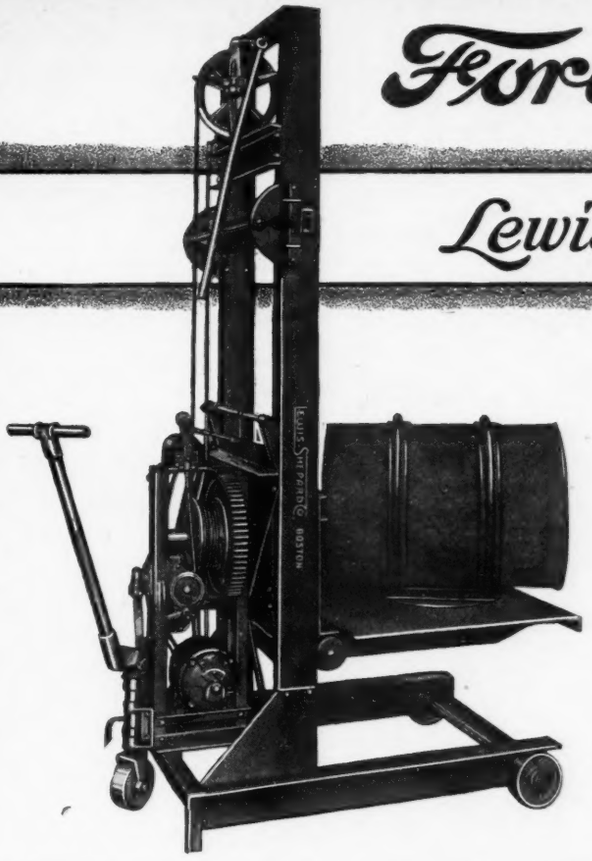
SOUTH HAVEN, MICH.—A. D. Dubuisson, who has been general manager of Wolverine Service Stations, with headquarters here, has just purchased the interests of D. W. Baird, president, and his associates of Chicago, in the company. Mr. Dubuisson is now the largest stockholder and has succeeded Mr. Baird as president, in addition to retaining his former position of general manager for trustees.

The Wolverine company is now entirely owned by South Haven residents.

PALESTINE, TEX.—F. M. Smith, agent for the Pierce Petroleum Corp., St. Louis, has opened two up-to-date filling stations here.

Ford Motor Buys 9

Lewis Shepard Stackers



To Handle Drums of Oil

Special Turntable on this light duty Electric Power Stacker speeds up the handling of barrels tremendously. Piles and unpiles—saves time, men and storage space. We also build *arc welded* drum and barrel racks—a great improvement over rivet and bolt construction. Get our prices.

Send for catalog today

LEWIS-SHEPARD COMPANY
143 Walnut Street Watertown Station
BOSTON, MASS.

Lewis-Shepard
BOSTON

Ready to ship — No delay — Immediate delivery

Royer Model G Visible Gasoline Pump

$115.00

Royer Model G enclosed

Tremendous production, skilled workmen, best of materials and no long waiting for your pump to arrive. In some cases, 24-hour delivery is made.

Our factory is running full tilt day in and day out, producing the finest, strongest and most efficient pump ever offered for $115.00. We absolutely guarantee it to meet with your satisfaction.

Read over these specifications. Send in 25% cash with order, balance sight draft bill of lading.

Guarantee of satisfaction. Try it out for thirty days. If you don't like it, send it back and full purchase price will be refunded!

Royer Air Compressors take up little space, are steady workers, need little attention and are sold at a very attractive price. Write us for complete information.

Operation: hand or straight air. Ten gallon size. Height nine feet. Specifications: 1½" geared Blackmer pump. Ten foot length best metal lined gasoline hose with self-closing shutoff valve at end of hose; aluminum tubing used in glass bowl; sixteen gauge metal housing. Height from base to glass cylinder 69 inches. Pump firmly supported by three standards.

Write, wire or phone today!

Royer Model G Casing removed

ROYER PUMP & EQUIPMENT COMPANY

1708 South 3rd Street **St. Louis, Mo.**

GULF Refining Company

General Sales Offices
PITTSBURGH, PA.
District Sales Offices
New York, Houston, Atlanta, Boston, New Orleans, Tampa, Philadelphia

REFINERS OF OKLAHOMA TEXAS AND LOUISIANA

PETROLEUM

REFINED OIL
GASOLINE
NAPHTHA
GAS OILS
PARAFFINE WAX
ASPHALT

Fuel Oil--Lubricating Oils

CYLINDER ENGINE
CORDAGE

RED AND PALE PARAFFINE OILS

REFINING

Reliable information on every phase of modern American refinery practice is to be found in the book prepared by H. S. Bell, and called AMERICAN PETROLEUM REFINING.
Some of the chapter headings are: Refinery Site and General Arrangement; Stills; Cracking; Cold Settling; Compounding; Storage of Oil; Bulk Transportation; and Fire Protection.
The cost of AMERICAN PETROLEUM REFINING is only $5. Just mail your check today to—

National Petroleum News
833 Caxton Building **Cleveland, Ohio**

Industrial Catalogues

New Continental Catalogs

TULSA,—The Continental Supply Co., of St. Louis, has recently issued three supplements to its general catalog, with the usual binding arrangement by which they can be added to the catalog to replace sections which they supersede. One of the supplements, consisting of 67 pages, deals with rotary hydraulic drilling outfits. An interesting feature of this booklet is a set of specifications for a complete rotary drilling outfit, including all machinery, tools, and miscellaneous equipment necessary to drill to 3500 feet starting with 19-inch hole and setting casing sizes 15½ inches and down. Rotary tables, drill stem attachments, draw works, engines, slush pumps, tool joints, bits, reamers, casing hooks and hose are described in detail, with prices. A list of parts is shown for each article. Fishing tools are covered in the last section.

Another supplement, with pages numbered from 417 to 444, describes pumping powers, pumping jacks, surface equipment and casing heads. Among powers shown are the Tico under-pull geared, Tico band wheel, Contico individual well pumping unit, and the Brownie worm drive. The latter is designed to pump up to six 500-foot wells and is direct connected to a Fairbanks-Morse Type "Z" 6 h.p. engine, operating on gasoline, kerosene, or natural gas. Oklahoma pattern, Jones & Hammond, and Jensen straight lift are described in the pumping jack section. The O. C. S. band-wheel counterbalance and the Burke long-stroke pumper are described in detail.

Casing equipment is cataloged in a third supplement of 26 pages. Described in this booklet are articles such as drive heads, drive shoes, clamps, tubing anchors, elevators, spiders, slips, hydraulic jacks, tubing and casing hooks, and casing blocks.

* * *

Champion Pneumatic Machinery Co., 8164 So. Chicago Ave., Chicago.—A bulletin describing its new and improved N model air compressor, made in four sizes, to meet the demand among filling station, garage and tire-shop trade for an automatic air compressor unit that is quiet in operation, has been published. A feature of the new model is that the head of the cylinder is provided with large cooling fins which dispel heat from about the valve and head. The unit is made in four popular sizes.

LOWELL, MASS.—A new office building has been added to the plant of the Mayflower Oil Co. here. This company is the marketing outlet for the New England Oil Refining Co., Boston, according to A. J. Bowen, agent for the Mayflower at Lowell.

HERE AND THERE

David B. Reger, assistant geologist of the West Virginia Geological Survey, Morgantown, W. Va., has returned to Morgantown after attending the annual field meeting of the American Association of State Geologists at Harrisburg, Pa. Members and guests of the association enjoyed a 500-mile tour through the limestone, sandstone and slate quarries, iron mines, anthracite and cement operations in southeastern Pennsylvania.

* * *

W. H. Seltzer, recently appointed sales manager of the Tri-State Refining Co., Kenova, W. Va., has been making personal calls at the various stations of the company, located at Logan, Williamson, Kimball and Bluefield, W. Va.

This company is painting all its high-test winter gasoline pumps red. It is marketing a straight-run gasoline from Kentucky crude, according to W. R. Bruce, salesman.

* * *

R. B. Rader, district representative at Huntington, W. Va. for the Tredick Oil & Grease Co., Philadelphia, spent a few days recently in the Kimball and Bluefield, W. Va. territory with representatives of the Tri-State Refining Co., Kenova, W. Va., which markets Tredick greases in that territory.

* * *

Oscar M. Jacobi, who until recently covered New England territory for the Seaboard Oil Corp., New York City, is now covering Brocton, Mass. territory for Colonial Filling Stations, Inc., Boston, reports Lloyd S. Humphreys, agent at station 52 for the Colonial at Montello, Mass.

* * *

M. J. Gavin, refinery engineer of the U. S. Bureau of Mines, at San Francisco, returned to his headquarters on Oct. 20 from Colorado. Four days later he left San Francisco for New York, and he will spend a month or more in examining oil shale deposits in Nova Scotia.

* * *

E. L. Smith, president, Blake Smith and R. L. Wheelock, vice presidents, of the E. L. Smith Oil Co., Inc., Mexia, Tex., returned to Mexia after a few days' inspection in west Texas, most of the time being spent in the Cross Plains area.

* * *

George W. H. Reid, chief chemist of the American Refining Co., Wichita Falls, Tex., has resigned his position and has moved to Anaheim, Calif., where he will make his home.

* * *

Guy Rockingbough has resigned from the Magnolia Petroleum Co. and has entered the sales force of Frick-Reid Supply Co., at Tulsa.

Raymond Shaw, recently added to the advertising department of the National Petroleum Marketers Association, Chicago, who is specializing on local advertising campaigns, merchandising methods and sales promotion. Mr. Shaw took up his duties with N. P. M. A. on Sept. 1. He has been for the past few years with E. T. Sadler Co., Chicago, advertising agents, and owns an interest in that company.

A. A. Bewley, who has been marine, industrial and government salesman for the Standard Oil Co. of California at San Diego, Calif., for the past nine months, has been promoted to jobbing salesman in the Los Angeles district.

* * *

Frank L. Bader, agent for the Sinclair Refining Co. at Atlantic City, married Miss Myrtle Marie Johnston, of Bala, Pa., on Sept. 30.

Junior Here and There

Born to Mr. and Mrs. L. A. Tarbox on Oct. 13, a fine boy. He is already shouting 100 per cent Pure Pennsylvania, reports Mr. Tarbox, who is assistant treasurer of the Independent Refining Co., Oil City, Pa.

* * *

C. O. Walgran, secretary, treasurer of Beyer & Fortner, Inc., Lewisburg, Pa., distributor of Tide Water products in central Pennsylvania, announces the birth of Robert E. Walgran, effective Oct. 22, net weight 9 pounds.

Col. Francis B. Upham, who has been with the Indian Refining Co., Lawrenceville, Ill. in various executive positions for the past three years, has been appointed acting purchasing agent for the company, succeeding Max Graf, who resigned on account of ill health.

Col. Upham is widely known in both army and petroleum circles. He is a graduate of West Point and served in France during the World War.

* * *

J. M. Vance, who has been salesman at Harrisburg, Pa., for the Indian Refining Co., Lawrenceville, Ill., for the past six years, has severed his connection with that company, and has become special representative for the Jewell Oil Co., Shamokin, Pa. This company has taken on the distribution of Havoline oils and greases of the Indian company in five counties.

* * *

C. W. Lewis, sales manager of the Cities Service Refining Co., Boston, was in charge of traffic accomodations for 22 oil men from New England who attended the N. P. M. A. convention at Louisville. A day's stop at Cincinnati on the way to Louisville was made. A special car was used for the trip.

* * *

J. D. Watson, formerly with the Stromberg Carburetor Co., has been appointed manager for the New Rochelle, N. Y., district for the Pennzoil Co., according to A. S. Matthews, vice president of the Pennzoil at Buffalo.

* * *

E. Phips and James E. Berry have been put on as salesmen at the Chincoteague, Va. station of H. C. Watson, marketer and jobber with headquarters at Onley, Va. These men succeed John Wheatton and Joe Birck.

* * *

J. H. Foster, president, and J. A. Dingwall, Jr., vice president of the Seaboard-Midland Petroleum Corp., New York City, have recently returned from a visit in Los Angeles.

* * *

J. A. Goodman, president of the Blue Ribbon Refineries, Brownwood, Tex., left on Oct. 11 for California, and left the refinery in charge of C. W. Warren.

* * *

W. L. Bugbee, formerly with the Sinclair Refining Co. at Omaha, Neb., is now local manager at Mason City, Ia., for the Hawkeye Oil Co., Waterloo, Ia.

* * *

G. B. Barnett, manager of Cole & Barnett Oil Co., Krum, Tex., has returned from a business trip to Houston, Tex.

"DEFIANCE"

UNDER THE SKIN

THE skin of a steel barrel is the "specification". It covers guage of steel, size, shape, style and perhaps color of paint to be used.

But under the "skin" you find the character, the integrity, the ideals of the steel barrel manufacturer—and these are more important than specifications.

Have you ever heard of a Defiance Steel Barrel not living up to *MORE* than the specifications called for?

Neither have we.

THE AMERICAN STEEL PACKAGE CO.

Defiance, Ohio

THE GEOLOGY OF PETROLEUM

is the name of the book written by William H. Emmons, which goes into detail describing the more important fields such as the Appalachian, Lima-Indiana, Illinois, Mid-Continent, Gulf Coast of Texas and Louisiana, Rocky Mountain, Canadian, Mexican and foreign fields.

It contains 610 pages, with 254 maps and illustrations, and may be purchased for $6 from—

National Petroleum News

824 Caxton Building **Cleveland, Ohio**

Oil Patents Issued Oct. 27-Nov. 10

Production

Pump—Osmyn Mowers, Houston, Tex. Filed Aug. 11, 1924. No. 1,559,579.

Pump—Ellsworth Gray, Houston, Tex. Filed Jan. 5, 1925. No. 1,559,606.

Bailer Head—Fred Love and Charles Shaw, Healdton, Okla , assignors of one half to Wirt Franklin, Ardmore, Okla. Filed April 11, 1924. No. 1,559,635.

Casing Shoe Guide—Reuben C. Baker, Coalinga, Calif., assignor to Baker Casing Shoe Co. Filed March 14, 1923. No. 1,559,662.

Swivel Hook—Fred C. Lester, Wichita Falls, Tex Filed June 16, 1925. No. 1,559,713.

Underreamer for Hydraulic Rotary Well Drilling—Loran E. Nebergall, Denver, Colo. Filed

Pump Packing—Walter A. O'Bannon, Tulsa. Filed Sept. 22, 1924 No. 1,559,766. Nov. 3, 1923. No. 1,559,761.

Valve—Milon J. Trumble, Alhambra, Calif., assignor to Brown Valve & Manufacturing Co., Alhambra. Filed Oct. 16, 1922. No. 1,559,811.

Relief Valve—Milon J Trumble, assignor to Brown Valve & Manufacturing Co. Filed Nov. 21, 1922. No. 1,559,812.

Tool Joint—Samuel E. Holland, Corsicana, Tex. Filed Aug. 29, 1924. No. 1,559,874.

Rotary Slip for Drilling Oil Wells—Charles J Bogen, Huntington Beach, Calif. Filed May 14, 1924. No. 1,559,932.

Casing Spear—John A. Young, Torrance, Calif., and Philip M. Rea, West Chicago, Ill., assignors to Union Tool Co., Torrance. Filed Oct. 13, 1923 No. 1,560,011.

Trip Reamer—Roy E. Cooper, Shidler, Okla. Filed April 15, 1925. No. 1,560,019.

Pump Jack—Julius Owen Hearn, Fentress, Tex. Filed April 30, 1925. No. 1,560,086.

Rotary Slip—Richard D. Hill, Wichita Falls, Tex , assignor one-third to John M. Spellman, Dallas, Tex. Filed March 15, 1924. No. 1,560,234.

Drill Jar—Edward J. Dunigan, Muskogee, Okla. Filed June 25, 1925. No. 1,561,419.

Refining

Method of Distilling Oil—Leon E. Hirt, Los Angeles. Filed March 2, 1920 No. 1,559,701.

Process of Extracting Waxes from Crude Petroleum—Earl Petty, Winfield, Kan., assignor to De Laval Separator Co., New York. Filed Sept. 15, 1921. No. 1,559,981.

Process of Producing Wax-Free Products from Crude Petroleum—Earl Petty, assignor to De Laval. Filed July 11, 1923. No. 1,559,982.

Cracking Still for Mineral Oils—William L. Bagwill, Long Beach, Calif. Filed Dec. 27, 1923. No. 1,560,891.

Baffle Tower—Clive M. Alexander, Tulsa. Filed Feb 20, 1925. No. 1,561,044.

Hydrocarbon Distillation—Henry G. W. Kittredge, Toledo, O. Filed Aug. 13, 1919. No. 1,561,169.

Lubricating Compound and Its Manufacture—Alfred George Marshall, Purley, England. Filed July 17, 1923. No. 1,561,261.

Natural Gasoline

Recovery of Gasoline, etc.—Harold B. Bernard, Tulsa, assignor to Sinclair Oil & Gas Co. Filed May 8, 1924. No. 1,560,137.

Gasoline Recovery—Harold B. Bernard assignor to Sinclair. Filed May 27, 1924 No. 1,560,138.

Miscellaneous

Method and Apparatus for Storing Oil—Ellis Mallery, Los Angeles. Filed May 8, 1923. No. 1,561,260.

Retort for the Carbonization of Solid Fuels—Augustin Leon Jean Queneau, Frejus, France, assignor to Edmund Heisch, Paris. Filed Nov. 27, 1923. No. 1,560,855.

Tank Scaffold—Jay Albert Stough, Tulsa. Filed Oct. 6, 1924. No. 1,560,874.

HARTFORD, CONN.——The Ballard Oil Co. of Hartford has just installed a new storage tank for 14-20 fuel oil, having a capacity of 90,700 barrels.

Industrial Notes

A contract from the Pennsylvania-Ohio Electric Co., Youngstown, O., has been received by the Erie Service Station Equipment Co., calling for a complete Erie meter system for both fueling and oiling of the former company's fleet of motor buses, according to L. O. Carlson, manager of the latter.

The equipment will include four Hyspeed meter outlets specially designed for the rapid filling of large fuel tanks. The motor oil will be metered from four outlets, so arranged that the oiling will be done simultaneously with the fueling. The system is designed for direct service from six 20,000 gallon gasoline tanks and one two-compartment 20,000 gallon motor oil tank.

* * *

Republic Flow Meters Co., 2240 Diversey Parkway, Chicago, announces the beginning of publication of a series of articles on "Boiler Room Operation," by G. F. Gebhardt, author of "Steam Power Plant Engineering," and head of the mechanical engineering department of the Armour Institute of Technology.

The first of the series, "Heat Losses," is already out in pamphlet form and is available for free distribution to engineers and others interested. Article 2 will be on "Air for Combustion," article 3, "Heat Transmission in Steam Boilers," article 4, "Boiler Efficiency," and article 5, "Preliminary Plant Survey."

* * *

Wilson Welder & Metals Co. Hoboken, N. J., manufacturer of welding equipment, will exhibit in booths 485 and 486 at the power and mechanical engineering exposition, Grand Central Palace, New York City, from Nov. 30 to Dec. 5. A complete line of welding equipment will be displayed, including the new single-operator portable gasoline driven Wilson type S arc welding machine and motor generator set, both of which will be in operation. Actual welding jobs will be done as a special demonstration.

W. M. Bastable, sales manager of the company will be in charge of the booth, assisted by members of the sales force.

* * *

Automobile Rotary Lift Co., Memphis, Tenn., has appointed P. F. O'Brian general manager. Paul W. Lawther, formerly district sales manager at Memphis for the S. F. Bowser & Co., Inc., will be Mr. O'Brian's assistant. The company recently received an order for 50 rotary lifts from the Standard Oil Co. of Kentucky, which will be installed at their service stations.

* * *

The Brown Instrument Co., Philadelphia, has opened offices at Indianapolis, Ind., 215 East New York St., in charge of J. R. Green. Another office has been opened in the Hippodrome Bldg., Cleveland, O., in charge of G. S. Frazee.

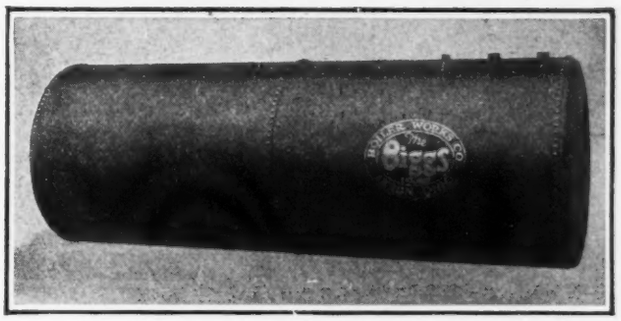
Vogt Products For The Oil Refiners

We manufacture Paraffine Wax Presses, Distillate Chilling Machines, Stills, Auto Truck Tanks, Special Refinery Equipment, Boilers, Refrigerating Machinery, Drop Forged Steel Valves, and Fittings. Bulletins On Request.

Henry Vogt Machine Co.
Incorporated
Louisville - - - Kentucky

Branch Offices
New York Chicago
Philadelphia Dallas

TANKS



Standard sizes of storage tanks are carried in stock.

Why They Come Back.

USERS of steel tanks come back to Biggs when they want more of the same kind of material.

They come back for three reasons:
They get good Tanks—as Biggs always builds them;
They get good Service—that Biggs always gives.
At Right Prices

Biggs Riveted Steel Storage and Station Tanks were serving oil and gas men long before it attained the dignity of "The Oil Industry." They are still standard equipment everywhere. Put your stock in a Biggs Tank and prove the case for yourself.

THE BIGGS BOILER WORKS CO.
Buchtel and Bank Streets Akron, Ohio
Specialists in Riveted Steel Plate Construction Since 1887.

BIGGS

FRY
Visible Pump
"Always Accurate"
Made in five and ten gallon capacities—both labeled by the Underwriter's Laboratories.
Good Will
The friendly attitude displayed toward the Fry Visible Pump at the recent Louisville Convention is indicative of the high regard in which this pump is held by pump buyers all over America.
Guarantee Liquid Measure Co.
Rochester, Pennsylvania
Philip Gies Pump Co., Ltd.
Kitchener, Ontario
Good Will
FRY
FRY
GUARANTEE LIQUID MEASURE CO. ROCHESTER PA.
FRY

ON THE LAZY BENCH

Signs Seen on the Back of Fords

"'Nash' Can."
"Oil by Myself."
"Sick Cylinders."
"Puddle Jumper."
"The Stuttering Stutz."
"Four wheels, all tired."
"Fierce Arrow, with a quiver."
"100% A Meri Can."
"99% Static."
"Rolls-Oats."
"Danger! 20,000 Jolts."
"Vertical Four."
"Struggle Bugge."
"Baby Lincoln."
"The Uncovered Wagon."
"Little Bo-Creep."
"Why Girls Walk Home."
"Dis Squeals."
"Mah-Junk."
"Pray as you Enter."

The most sensible sign we have seen on a Ford:

"DON'T LAUGH
BIG BOY—
MINE'S ALL
PAID FOR"

—Pure Oil News

◈ ◈ ◈

Easy?

A real estate man in St. Louis wired a lawyer in Galveston, Texas, as follows: "Have a lease in Ft. Worth, wish you would look at it."

Next day he received the following reply: "Look at it yourself, you are closer to it than I am."

◈ ◈ ◈

Narcissus: Looky here, black man, whut's you all gwine gimme for my birthday present?

Black Man: Close yo' eyes, honey (business of closing her eyes.) Now what yo' see?

Narcissus: Nuthin'.

Black Man: Well, dat's whut you all gwine git.

◈ ◈ ◈

The professor had asked time and again for the students to put more personal touch, in their themes, so one of the papers which he received ended thus:

"Well, professor, how are the wife and kiddies; and, by the way, before I forget it, could you lend me five dollars?"

◈ ◈ ◈

"My wife writes me that she is all unstrung; what shall I do?"

"Send her a wire."

◈ ◈ ◈

He: I love you, my lamb.

She: Oh! Stop bleating around the bush.

Professionals

A widower was to be married for the third time, and his bride had been married once before.

The groom-elect wrote across the bottom of the wedding invitation sent to a friend:

"Be sure to come; this is no amateur performance."

—Steel

◈ ◈ ◈

He was newly arrived in this country and was none too familiar with the use of the telephone. So he took the receiver and demanded:

"Aye vant to talk to my wife."

Central's voice came back sweetly: "Number, please?"

"Oh," he replied, perfectly willing to help out, "she bane my second vun."

◈ ◈ ◈

Again the Scotch

He: Dear, I don't think I'll be home for dinner tonight.

She: No? What will I do?

He: If I change my mind, I'll call you on the 'phone at six, but don't answer, then I'll get my nickle back.

◈ ◈ ◈

She Saw East Lynne for 50 Cents

"$4.40 to see Eddie Cantor," remarked Aunt Lizzie, "why I wouldn't even pay that to see him gallop."

◈ ◈ ◈

Sam: Hello, Bill, been huntin'?

Bill: Yes.

Sam: Shoot anything?

Bill: Shot my dog.

Sam: Was he mad?

Bill: Well, he didn't act any too darn pleased.

◈ ◈ ◈

Mr. Newrich: Well, m'dear, we're invited to the Country Club for dinner tomorrow night.

Mrs. Newrich: How nice! I've always wanted to eat there—I've heard so much of their unique golf course.

◈ ◈ ◈

"I'd like to be a conductor."

"Why?"

"The other day I heard a girl say she adored Carmen."

◈ ◈ ◈

He: How I long to go away and hide, completely cut off from the rest of the world!

She: J'ever try a telephone booth?

◈ ◈ ◈

Beauty is only skin deep—which means about one inch of powder, two inches of rouge, and six coats of paint.

If Winter Comes

are you far behind!

Not if you use the Royway of serving alcohol.

The Roy Portable Alcohol Server is built to meet every requirement for profitably serving alcohol. Its simple, easy action pump, one pint to a stroke, insures accurate measure. No waste—the automatic shut-off valve in the nozzle prevents dripping. Saves law suits—no alcohol splashed on hoods and radiators to mar finish. Capacity 10 gallons.

Roy quality throughout.

Write for descriptive circular.

Roy Sales Co., Inc.
50 Church St. New York City, N. Y.

Agents and Distributors Wanted

Refinery Products Directory

Gasoline and Naphtha

ILLINOIS

58-60 U. S. Motor Gasoline
Indian Refining Company, Lawrenceville, Ill.

KANSAS

60-62 420-430 E. P. Gasoline
★Skelly Oil Co., El Dorado, Kansas

64-66 375 E. P. Gasoline
★Skelly Oil Co., El Dorado, Kansas

KENTUCKY

46-48 500 E. P. Naphtha
Great Southern Refining Co., Lexington, Ky.

50-52 450 E. P. Naphtha
Great Southern Refining Co., Lexington, Ky.

56-58 437 E. P. Gasoline
Great Southern Refining Co., Lexington, Ky.

58-60 Navy Gasoline
Great Southern Refining Co., Lexington, Ky.

58-60 Motor Gasoline
Great Southern Refining Co., Lexington, Ky.

64-66 400 E. P. Straight-run Gasoline
Ashland Refining Co., Ashland, Ky.
Great Southern Refining Co., Lexington, Ky.

68-70 Straight-run Gasoline
Ashland Refining Co., Ashland, Ky.

NORTH LOUISIANA

58-60 U. S. Motor Gasoline
Caddo Central Oil & Refining Co.,Shreveport,La.
Louisiana Oil Refg. Corp., Shreveport, La.
Shreveport Prod. & Refg. Co., Shreveport, La.

NORTH TEXAS

56-58 450 E. P. Gasoline
Sunshine Consolidated Oil Co., WichitaFalls,Tex.

58-60 U. S. Motor Gasoline
Sunshine Consolidated Oil Co., WichitaFalls,Tex.

58-60 450 E. P. Naphtha
Texhoma Oil & Refg. Co., Wichita Falls, Texas

60-62 400 E. P. Gasoline
Sunshine Consolidated Oil Co., WichitaFalls,Tex.

64-66 390 E. P. Gasoline
Sunshine Consolidated Oil Co., Wichita Falls,Tex.

64-66 375 E. P. Gasoline
Sunshine Consolidated Oil Co., Wichita Falls,Tex.

OKLAHOMA

50-52 450 E. P. Naphtha
Cameron Refg. Co., Ardmore, Okla.

56-58 450 E. P. Gasoline
★Bolene Refg. Co., Enid, Okla.
Cameron Refg. Co., Ardmore, Okla.

58-60 450 E. P. Gasoline
★Bolene Refg. Co., Enid, Okla.

58-60 U. S. Motor Gasoline
★Bolene Refining Co., Enid, Okla.
Cameron Refg. Co., Ardmore, Okla.
Shaffer Oil & Refg. Co., Tulsa, Okla.

60-62 400 E. P. Gasoline
Altitude Petroleum Co., Tulsa, Okla.
Shaffer Oil & Refg. Co., Tulsa, Okla.

64-66 390 E. P. Gasoline
★Bolene Refg. Co., Enid, Okla.

64-66 375 E. P. Gasoline
Shaffer Oil & Refg. Co., Tulsa, Okla.

68-70 350-360 E. P. Gasoline
Altitude Petroleum Co., Tulsa, Okla.
Shaffer Oil & Refg Co., Tulsa, Okla.

68-70 360-375 E. P. Gasoline
Shaffer Oil & Refg. Co., Tulsa, Okla.

PENNSYLVANIA

50-52 Naphtha
Emery Mfg. Co., Bradford, Pa.

52-54 Naphtha
Lucinda Refining Co., Lucinda, Pa.

54-56 Naphtha
Emery Mfg. Co., Bradford, Pa.
McKean County Refining Co., Bradford, Pa.

58-60 Gasoline
Carnegie Refg. Co., Carnegie, Pa.
★Continental Refining Co., Oil City, Pa.
Independent Refining Co., Oil City, Pa.

58-60 Straight-run Gasoline
Bradford Oil Refg. Co., Bradford, Pa.
Butler County Oil Refg. Co., Bruin, Pa.
Emery Mfg. Co., Bradford, Pa.
McKean County Refining Co., Bradford, Pa.

60-62 Straight-run Gasoline
Bradford Oil Refg. Co., Bradford, Pa.
Emery Mfg. Co., Bradford, Pa.
McKean County Refining Co., Bradford, Pa.

62-64 Straight-run Gasoline
Emery Mfg. Co., Bradford, Pa.
McKean County Refining Co., Bradford, Pa.

64-66 Straight-run Gasoline
Bradford Oil Refg. Co., Bradford, Pa.
Emery Mfg. Co., Bradford, Pa.
McKean County Refining Co., Bradford, Pa.

68-70 Straight-run Gasoline 350 E. P.
McKean County Refining Co., Bradford, Pa

68-70 Straight-run Gasoline 305-320 E. P.
Butler County Oil Refg. Co., Bruin, Pa.
Emery Mfg. Co., Bradford, Pa.
Pennsylvania Oil Products Refg. Co., Warren, Pa.

70-72 Straight-run Gasoline 300-305 E. P.
Emery Mfg. Co., Bradford, Pa.
Lucinda Refining Co., Lucinda, Pa.
★Waverly Oil Works Co., Pittsburgh, Pa.

68-70 Blend, 425-430 E. P.
★Continental Refining Co., Oil City, Pa.

Special Naphtha

OKLAHOMA

V. M. & P. Naphtha
Anderson Prichard Oil Corp., Oklahoma City, Okla.

Cleaners Naphtha
Anderson Prichard Oil Corp., Oklahoma City, Okla.

Rubber Solvent
Anderson Prichard Oil Corp., Oklahoma City, Okla.

Turpentine Substitute
Anderson Prichard Oil Corp., Oklahoma City, Okla.

PENNSYLVANIA

Turpentine Substitute
★Waverly Oil Works Co., Pittsburgh, Pa.

Refineries all over the country are listed according to the products they are making today, or that they have in stock, or will make on reasonable demand.

Refineries shut down for any length of time and whose stocks of products are exhausted, are eliminated so far as possible.

It is requested, in justice to all, that all inquiries by telephone and telegraph be prepaid and this is recommended by the oil associations.

Methods of testing, approved by oil and scientific associations and the U. S. Bureau of Standards, are used. Grades of products listed, as well as names of refineries are revised each week.

Any marketers appearing in these columns are exclusive sales agents by contract with or ownership of refineries and the products listed after them are those made by those refineries.

Natural Gasoline

OKLAHOMA

Grade A
Altitude Petroleum Co., Tulsa, Okla.

Burning Oils

KENTUCKY

43-44 Water White Kerosene
Great Southern Refining Co., Lexington, Ky

43-45 Water White Kerosene
Ashland Refining Co., Ashland, Ky.

NORTH LOUISIANA

41-43 Water White Kerosene
Caddo Central Oil & Refining Co.,Shreveport, La.
Louisiana Oil Refg. Corp., Shreveport, La.

NORTH TEXAS

41-43 Water White Kerosene
Sunshine Consolidated Oil Co., Wichita Falls,Tex.

OKLAHOMA

41-43 Water White Kerosene
Cameron Refg. Co., Ardmore, Okla.

42-44 Water White Kerosene
Altitude Petroleum Co., Tulsa, Okla.

44-46 Water White Kerosene
Anderson-Prichard Oil Corp., Oklahoma City Okla.

PENNSYLVANIA

45 Water White Kerosene
Bradford Oil Refg. Co., Bradford, Pa.
Butler County Oil Refg. Co., Bruin, Pa.
Carnegie Refg. Co., Carnegie, Pa.
★Continental Refining Co., Oil City, Pa.
Emery Mfg. Co., Bradford, Pa.
★Empire Oil & Grease Co., Inc., Oil City, Pa.
Independent Refining Co., Oil City, Pa.
Lucinda Refining Co., Lucinda, Pa.
McKean County Refining Co., Bradford, Pa.
Mutual Refg. Co., Warren, Pa.
Pennsylvania Oil Products Refg. Co., Warren, Pa.

46 Water White Kerosene
Emery Mfg. Co., Bradford, Pa.
McKean County Refining Co., Bradford, Pa.
Mutual Refg. Co., Warren, Pa.

47 Water White Kerosene
★Empire Oil & Grease Co., Inc., Oil City, Pa.

REFINERY-TANK WAGON MARKETS

Motor Fuels Quite on Limited Buying; Fuel Oils are Trifle Easier

TULSA, Nov. 23

ALTHOUGH weather conditions have been ideal through the Mississippi valley the past week gasoline markets in the Mid-Continent have been quiet. Spot buying has been heavy enough only to keep the market from dropping below the level reached at the opening of business Monday.

Natural gasolines have been soft and lost ground. Burning oils and distillates have shown little activity but have been strong in a quiet way. The warmer weather has likewise kept new fuel oil business below the peak of recent weeks but there has been no shading of prices on the part of refiners.

Undoubtedly one reason for the lack of interest in gasoline has been the fall convention at Louisville of the National Petroleum Marketers Association. Important jobbers in all parts of the country have been away from their desks and out of touch with their own business as well as with the market. Convention weeks have a habit of causing dullness in the market unless there is some extraordinary condition like a wave of export buying.

Next week may be a somewhat different story if the weather continues favorable for motoring in north and central states. Refiners are banking on an increase in demand to keep the market for U. S. Motor gasoline up to its present level of 10 cents per gallon.

Buying Rush Improbable

It is not expected that jobbers will do much buying of gasoline for future delivery or in excess of their current requirements for prompt shipment. The advance of a cent per gallon in the price of U. S. Motor since the opening of November has come at the wrong time of the year to cause a stampede of buying. Station gallonage is relatively small even in good weather and jobbers generally lean toward the view that gasoline will not command a price of 10 cents or over during the winter months. A policy of hand to mouth buying by the jobbing trade appears probable.

Refiners generally are just as well pleased to have their customers buy on a current basis. Accumulation of a large amount of gasoline in the hands of distributors has been found even more detrimental to market prices than a similar accumulation in the hands of refiners Buying in advance of requirements by jobbers always creates a false idea in refiners' minds regarding the rate of increase of ultimate consumption. Greater crude runs than are warranted result and finally both refiners and jobbers have too much gasoline on hand.

Conservative Policy

By the same token jobbers should be glad refiners are controlling their operations as carefully as they are this fall. Weekly statistical reports on refinery activity in the Mid-Continent, as gathered by National Petroleum News, show that refiners in this area have never allowed stocks to accumulate over any extended period since the first of April.

The chart at the bottom of this page shows that the longest period of stock accumulation was from the middle of September to the middle of October and that, throughout that period, refiners were reducing runs to balance their production with the diminishing demand resulting from extreme weather conditions. For the four weeks ending Nov. 16, the group of 124 refiners covered by this report reduced their stocks of gasoline 3,000,000 gallons, which is an excellent showing for this time of the year.

If refinery runs are as carefully maintained in line with demand during December and the early part of next year there is no essential reason why gasoline should weaken below its present level. After the new year begins or even before it would not be surprising to see Mid-Continent crude advanced above its present level and refiners even more anxious to keep their prices above distress levels.

Export Buying Slow

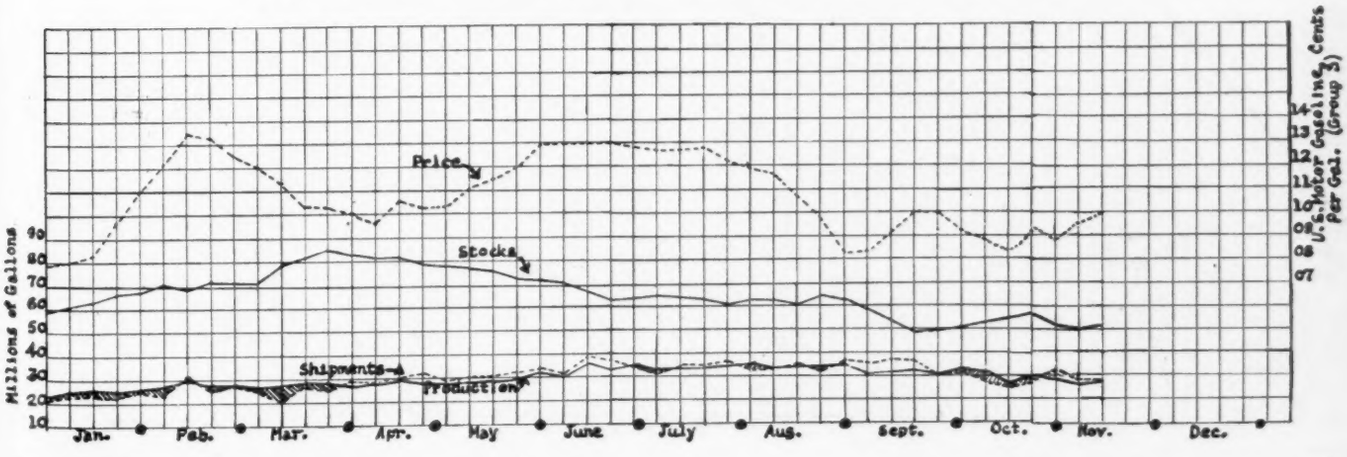
Export buying has been slower this week than since the beginning of the month. The supply of 64-66, 375-end point material on the market is not large, and refiners have not been inclined to accept instructions from buyers at around 12¼ cents per gallon. For their part exporters have not raised their offers in line with the higher ideas of refiners.

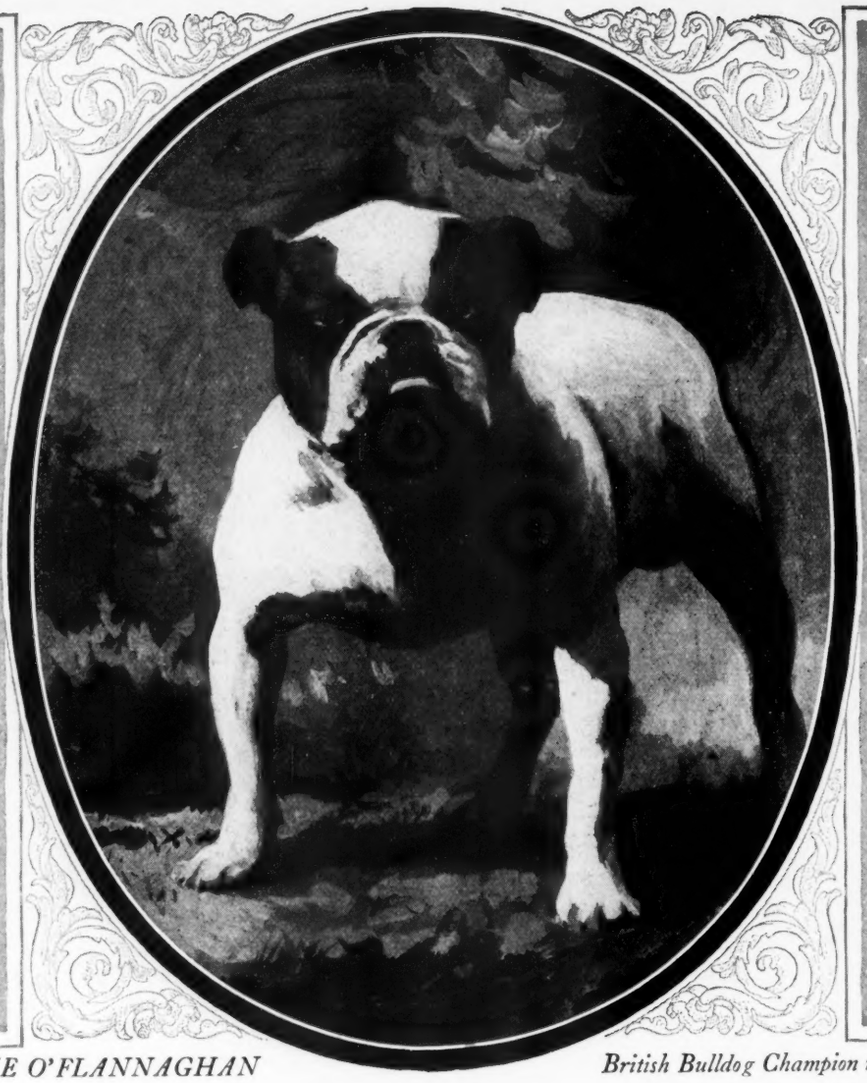
Premium grades of domestic gasolines are held at slightly higher prices than at the beginning of the week, because such a little of this material is left for immediate shipment over and above the amount which has already been obligated to exporters for November delivery.

The future of the export market after the tenth of December is somewhat

(Continued on page 157)

Barometer of the Mid-Continent Gasoline Market





CH. MIKE O'FLANNAGHAN — *British Bulldog Champion now in U.S.A.*

Undisputed Superiority Means Leadership

CHAMPION Mike O'Flannaghan, the greatest of his breed possesses that undisputed superiority with which is associated the Leadership of his class. Pedigree is the accepted basis of claims to superiority and reputation. Performance is the actual demonstration. Leadership is the natural result.

The American public always leans to leaders in their lines, but—they always demand proof before granting undisputed superiority. In gasoline they look for proof in performance and in PEERLESS 64 Gasoline they get that kind of performance which leaves no doubt in their minds as to leadership.

To UNFAILINGLY *Please and Satisfy All, Sell—*

Miller's Peerless 64 GASOLINE

Doctor Test and Corrosion Test. Its crystal clearness signifies its real Purity.

When you sell satisfaction, it soon becomes a regular habit and profitable.

SUPREME IN QUALITY AND MUST BE SOLD AT A PREMIUM

MILLER PETROLEUM CO.
Mail Address P. O. Box 1133, Kansas City, Mo. *Date* _____

Gentlemen: Send particulars of Miller's PEERLESS 64 Gasoline, also state exclusive advantages and benefits offered by you to recognized jobbers.

Name _____ *Town* _____

Address _____ *State* _____

We operate ☐ Bulk ☐ Service Stations.

(Use your regular business stationery and if possible give us full information about local conditions.)

N. P. N.

Refinery Markets on Light Oils and Lubricants

Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas, California

GASOLINE AND NAPHTHA

	Prices Nov. 23	Prices Nov. 16	Prices Nov. 9
PENNSYLVANIA			
52-54 Naphtha	11¼-11½	11¼-11½	11¼-11½
54-56 Naphtha	11½-11¾	11½-11¾	11¾-12
58-60 Gasoline	11¾-12	11¾-12	12 -12¼
60-62 Straight-run gasoline	12¼-12¾	12¼-12¾	12½-13
62-64 Straight-run gasoline	13¼-14	13¼-14	13½-14
64-66 Straight-run gasoline	14½-15	14½-15	14¾-15
68-70 Straight-run gas. 350-360 E.P.	-16	-16	-16½
68-70 Straight-run gas. 305-320 E.P.	-19	-19	-19
70-72 Straight-run gas. 300-305 E.P.	-20	-20	-20
OKLAHOMA			
48-50 450 E. P. naphtha	9 - 9¼	8¾- 9	8½- 8¾
50-52 450 E. P. naphtha	9 - 9¼	8¾- 9	8½- 8¾
56-58 450 E. P. gasoline	- 9½	9¼- 9½	8¾- 9
56-58 U. S. Motor gasoline	- 9¾	- 9¾	9 - 9¼
58-60 U. S. Motor 437 E. P.	-10	-10	9¼- 9½
60-62 400 E. P. gasoline	11¼-11¾	11½-11⅝	11 -11¼
64-66 375 E. P. gasoline	-12½	12¼-12½	12 -12¼
68-70 350-360 E. P. gasoline	13¼-13¾	13¼-13½	13¼-13½
KANSAS*			
56-58 450 E. P. gasoline	9¾-10	9½- 9¾	8¾- 9
58-60 U. S. Motor gasoline	10¾-10½	10 -10¼	9¼- 9½
60-62 400 E. P. gasoline	11¾-12	11¾-12	11½-11¾
64-66 375 E. P. gasoline	-13	12¾-13	12½-12¾
NORTH TEXAS			
48-52 450 E. P. naphtha	8½- 8¾	8½- 8¾	- 8¼
56-58 450 E. P. gasoline	9¼- 9½	- 9¼	8¾- 9
58-60 450 E. P. gasoline	9½ - 9¾	- 9½	9 - 9⅜
58-60 U. S. Motor gasoline	-10	- 9¾	9¼- 9⅜
60-62 400 E. P. gasoline	11⅝-11¾	-11¼	10⅞-11⅛
64-66 390 E. P. gasoline	-12¾	-12¼	-12
64-66 375 E. P. gasoline	-12½	-12½	-12¼
68-70 350-360 E. P. gasoline	-13¼	-13¼	13¼-13½
NORTH LOUISIANA			
58-60 U. S. Motor 437 E. P.	-10½	10 -10¼	- 9¾
ARKANSAS			
58-60 450 E. P. gasoline	-10¼	9¾-10	- 9½
58-60 U. S. Motor gasoline	-10½	10 -10¼	- 9¾
64-66 375 E. P. gasoline	12¾-13	12½-12¾	12½-12¾
CALIFORNIA			
54-56 U. S. Motor gasoline	-11	- 9	- 9
42-45 Engine distillate, 445-480 E.P.	6¼- 7	6¼- 7	6¼- 7

Note: This is without the 2-cent state tax included in the price of California refiners for shipments within the state.

NEW ENGLAND
(F. O. B. Boston and Fall River)

U. S. Motor gasoline	-11¾	-11¾	-11¾

NATURAL GASOLINE

(Note: End point of all grades, not over 375°F.)

OKLAHOMA			
Grade Double A	-11¼	11¼-11½	-11½
Grade A	-11¼	11¼-11½	-11½
Grade Double B	-10¼	10½-10¾	-11
Grade B	-10¼	10½-10¾	-11
Grade C	- 9	9 - 9¼	9¼- 9⅜

NOTE—Specifications adopted by Ass'n of Nat. Gaso. Manufacturers
Grade Double A—80-87.9 gravity, 90% recovery, not over 375 E. P.
Grade A—72-79.9 gravity, 90% recovery, not over 375 E. P.
Grade Double B—84-92 gravity, 85% recovery, not over 375 E. P.
Grade B—76-83.9 gravity, 85% recovery, not over 375 E. P.
Grade C—80-90 gravity, 78% recovery, not over 375 E. P.

NORTH TEXAS			
*Grade Double A	11 -11¼	-11½	-11½
*Grade A	11 -11¼	-11½	-11½
*Grade Double B	-10¼	-10¾	-11
*Grade B	-10¼	-10¾	-11
Grade C	- 9	9¼- 9½	9½- 9¾

*F. O. B. Breckenridge.

CALIFORNIA			
78-85 375 E. P.	13 -13½	12½-13½	12½-13
PENNSYLVANIA			
68-70 Grav. 437 E. P.	13¼-13¾	13¼-13¾	13½-14
64-66 Grav. 437 E. P.	13 -13½	13 -13½	13¼-13¾
60-62 Grav. 437 E. P.	12 -12½	12 -12½	12¾-12½
68-70 Grav. 420 E. P.	13½-14	13½-14	13¾-14¼

BURNING OILS

PENNSYLVANIA			
45 Water White Kerosene	7¼- 7½	7¼- 7½	- 6¾
46 Water White Kerosene	7¾- 8	7¾- 8	- 7¼
47 Water White Kerosene	8 - 8¼	8 - 8¼	7¾- 8
300 Burning Oil	- 8	8 - 8¼	7½- 7¾
OKLAHOMA			
41-43 Water White Kerosene	4⅞- 5⅛	5 - 5¼	4⅞- 5
42-44 Water White Kerosene	5¼- 5⅜	5½- 5⅝	5¼- 5½
KANSAS			
41-43 w. w. kerosene	5½- 5¾	5¾- 5¾	5½- 5¾
NORTH TEXAS			
41-43 Water White Kerosene	- 5	- 5	4⅞- 5
42-44 Water White Kerosene	5⅜- 5½	- 5¼	- 5¼

	Prices Nov. 23	Prices Nov. 16	Prices Nov. 9
NORTH LOUISIANA			
41-43 Water White Kerosene	5½- 5¾	5¾- 5½	5¾- 5½
ARKANSAS			
41-43 Water White Kerosene	5½- 5¾	- 5½	5¾- 5½
CALIFORNIA			
40-42 Water White Kerosene	7½- 8	7½- 8	7½- 8
NEW ENGLAND			
40-43 Water White Kerosene	- 7¼	- 7	- 7

NEUTRAL OILS

PENNSYLVANIA			
(Viscosity at 70° F.)			
220 Vis. No. 3 Assoc. Filt.	-26	-26	-26
200 Vis. No. 3 Assoc. Filt.	-23½	-23½	-23½
180 Vis. No. 3 Assoc. Filt.	-21½	-21½	-21½
150 Vis. No. 3 Assoc. Filt.	-17½	-17½	-17
(Non-Viscous)			
34 Grav. 350-360 Flash	- 7½	- 7½	- 7¼
36 Miners Neutrals 300-305 Flash	- 6½	6¼- 6¾	- 6½
OKLAHOMA			
(Viscosity at 100°F.)			
100 Vis. No. 2 color	5½- 8	5½- 8	5½- 8
100 Vis. No. 2½-3 color	- 8¼	- 8¼	- 8¼
150 Vis. No. 3 color	9 -10	9 -10	9 -10
150 Vis. No. 4 color	- 8¾	- 8¾	- 8¾
180 Vis. No. 3 color	9¾-10¼	9¾-10¼	9¾-10¼
180 Vis. No. 4 color	9½-10½	9½-10½	9½-10½
180 Vis. No. 5 color	- 9¼	- 9¼	- 9¼
200 Vis. No. 3 color	10¾-11½	10¾-11½	10¾-11½
200 Vis. No. 4 color	-10½	-10½	-10½
200 Vis. No. 5 color	9½-10½	9½-10½	9½-10½
220 Vis. No. 3 color	-11¾	-11¾	-11¾
220 Vis. No. 4 color	12 -12¼	12 -12¼	12 -12¼
220 Vis. No. 5 color	-11¾	-11¾	-11¾
240 Vis. No. 3 color	-14	-14	-14
240 Vis. No. 4 color	-13½	-13½	-13½
240 Vis. No. 5 color	-13	-13	-13
280 Vis. No. 3 color	-16	-16	-16
280 Vis. No. 4 color	-15½	-15½	-15½
280 Vis. No. 5 color	-15	-15	-15
300 Vis. No. 5-6 color	17 -17½	17 -17½	17 -17½
GULF COASTAL			
(Viscosity at 100°F; cold test 0)			
100 Vis. No. 2 Color Unfilt. Pale	7½- 8	7½- 8	7½- 8
200 Vis. No. 3 Color Unfilt. Pale	12 -12½	12 -12½	12 -12½
300 Vis. No. 3 Color Unfilt. Pale	13½-14	13½-14	13½-14
500 Vis. No. 3½ Color Unfilt. Pale	15½-16	15½-16	15½-16
750 Vis. No. 4 Color Unfilt. Pale	20 -20½	20 -20½	20 -20½
200 Vis. No. 5½ Color Red Oil	10½-11	10½-11	10½-11
300 Vis. No. 5½ Color Red Oil	12½-13	12½-13	12½-13
500 Vis. No. 6 Color Red Oil	14 -14½	14 -14½	14 -14½
750 Vis. No. 6 Color Red Oil	18 -18½	18 -18½	18 -18½
CALIFORNIA			
(Viscosity at 100°F.)			
100 Vis. No. 2 color	13½-14½	13½-14½	13½-14½
100 Vis. No. 3 color	9 -10	9 -10	9 -10
200 Vis. No. 3 color	14½-15½	14½-15½	14½-15½
300 Vis. No. 3 color	14 -16	14 -16	14 -16
450 Vis. No. 3½ color	19½-20½	19½-20½	19½-20½
550 Vis. No. 3 color	21½-22½	21½-22½	21½-22½
600 Vis. No. 3½ color	23½-24½	23½-24½	23½-24½
100 Vis. No. 5 color	8 - 9	8 - 9	8 - 9
200 Vis. No. 5 color	13½-14½	13½-14½	13½-14½
300 Vis. No. 5 color	14 -15	14 -15	14 -15
400 Vis. No. 5 color	16 -17	16 -17	16 -17
500 Vis. No. 5 color	17 -18	17 -18	17 -18
600 Vis. No. 6 color	18 -19	18 -19	18 -19
700 Vis. No. 7 color	19½-20½	19½-20½	19½-20½

CYLINDER STOCKS

OKLAHOMA			
190-210 Vis. at 210° Bright Stock	30 -35	30 -35	30 -35
150-160 Vis. at 210° Bright Stock	27 -31	27 -31	27 -31
600 E Stock, 140-150 Vis @ 210°	18 -20	18 -20	18 -20
600 Steam Refined Olive Green	8 -10	8 -10	7½-10
600 Steam Refined Dark Green	5¾- 6	5¾- 6	5¾- 6
Black Oil	5 - 5¼	5 - 5¼	4¾- 5
PENNSYLVANIA			
(1-inch Immersion Test)			
600 Steam Refined	15½-16	15½-16	15½-16
635 Steam Refined	20½-21	20 -20½	19 -20
650 Steam Refined	23 -23½	22½-23	21 -22
600 Flash	25½-26	25½-26	25½-26
600 Warren E	21¾-22	21¾-22	-22
600 Oil City E	20½-21	20½-21	-21½
600 Filtered D	26 -26½	26 -26½	-26½
Cold Test Stocks (bright filtered)	38 -39	-39	-39
Cold Test Stock (dark filtered)	36 -37	-37	-37
Black Oil	- 8	- 8	- 8

(Note—Prices of total immersion test goods average 1 to 3 cents per gallon higher.)

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information.

More Than A Truck Tank

It is Certified Oil Transportation and It Carries ALL the Oil

When you buy Good Trucks, equip them with Real Tanks. A Brown Certified Tank fills the bill. More Exact Fit, Long Life, No Repair Bill, Good Appearance

BROWN SHEET IRON AND STEEL CO.

Tanks, Storage Equipment, Pumps, Oil Barrels. ***Complete Outfits.***

1001 Berry Ave. **ST. PAUL, Minn.**

LICENSED MANUFACTURERS OF VAN TILBURG RECTIFYING PROCESS

CHRISTIAN-ABLE CO.
GREZEWELL GREASES
HOUSTON, TEXAS

"Number ZERO"

The 'year round'
GEAR COMPOUND
maintains uniform
consistency from
100° F. to 0° F.

CHRISTIAN-ABLE CO.
GREZEWELL GREASES
HOUSTON, TEXAS

We sell to jobbers only
Samples and prices
gladly furnished

CHRISTIAN-ABLE CO.
GREZEWELL GREASES
HOUSTON, TEXAS

CHRISTIAN-ABLE CO., Inc.

507 West Building
HOUSTON, TEXAS

Refinery Markets on Wax and Heavy Oil Products

Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas, California

WAX

PENNSYLVANIA	Prices Nov. 23	Prices Nov. 16	Prices Nov. 9
(Per Pound New York)			
122-124 White Crude Scale..	– 5⅞	– 5⅞	– 5¾
124-126 White Crude Scale..	– 6	– 6	– 5⅞
OKLAHOMA			
(Per Pound Group 3)			
124-126 White Crude Scale..	5¾– 5¾	5¾– 5¾	5¾– 5½
CALIFORNIA			
White Crude Scale.....	7½– 8	7½– 8	7½– 8
(San Joaquin Valley, San Francisco 4c per bbl. more.)			

FUEL OIL

PENNSYLVANIA			
36-40 Fuel Oil.....	– 5¾	– 5¾	5½– 5¾
30-34 Fuel Oil.....	– 5½	– 5½	5¼– 5½
28-30 Fuel Oil.....	– 5¼	– 5¼	5 – 5¼
OKLAHOMA			
38-40 Straw distillate.....	4 – 4⅛	4 – 4⅛	3⅞– 4⅛
36-38 Straw distillate.....	– 3⅞	– 3⅞	3¾– 3⅞
32-36 Gas oil.....	3½– 3¾	3½– 3¾	3⅜– 3½
26-30 Fuel oil (Bbl.).....	1.27½–1.30	1.27½–1.30	1.25 –1.27½
24-26 Fuel oil (Bbl.).....	–1.25	–1.25	1.20 –1.22½
18-22 Fuel oil (Bbl.).....	1.17½–1.20	1.17½–1.20	1.15 –1.20
KANSAS*			
38-40 Light straw distillate..	4⅛– 4¼	4⅛– 4¼	4⅛– 4¼
36-38 Light straw distillate..	– 4	– 4	– 4
32-36 gas oil.....	3¾– 3⅞	3¾– 3⅞	3½– 3¾
24-26 Fuel oil.....	1.30 –1.35	1.30 –1.35	1.25 –1.30
26-30 Fuel oil.....	1.35 –1.40	1.35 –1.37½	–1.30

*F. O. B. refinery, Kansas destination.

NORTH TEXAS	Prices Nov. 23	Prices Nov. 16	Prices Nov. 9
36-40 Straw Distillate.....	3¾– 4	3¾– 4	3¾– 3⅞
32-36 Gas Oil (Gal.).....	3¾– 3½	3¾– 3½	3¾– 3½
24-26 Fuel, per bbl.....	130 –1.32½	1.27½–1.30	1.25 –1.30
GULF COASTAL			
Fuel.....	1.45 –1.50	1.45 –1.50	1.45 –1.50
Gas Oil.....	4½– 4¾	4½– 4¾	4½– 4¾
NORTH LOUISIANA			
32-36 Light Gas Oil (Gal.)...	– 3¾	– 3¾	– 3½
18-22 Fuel Oil (Bbl.).....	1.00 –1.05	1.00 –1.05	1.00 –1.05
ARKANSAS			
32-36 Gas Oil.....	– 3¾	– 3¾	– 3½
CALIFORNIA*			
14-18 Fuel Oil (Bbl.).....	1.00	1.00	1.00
14-18 Bunker Oil (Bbl.).....	1.00	1.00	1.00
24-30 Gas Oil (Bbl.).....	1.15	1.15	1.15
27 + Diesel Oil (Bbl.).....	1.15	1.15	1.15

*Prices at southern California points. Prices at San Francisco and other coast points 5c per bbl. higher. San Joaquin Valley 10c per bbl. less.

NEW ENGLAND (F. O. B. Boston and Fall River)			
30-32 gas oil (gal.).....	– 5¼	– 5¼	– 5¼
Fuel Oil (Bunker C) bbl.....	–1.05	–1.07	–1.07

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information.

(Continued from page 153)

in doubt through the publication of higher rates from a large number of refining points to New Orleans. Most refining points in Oklahoma will suffer an advance of 3 cents per hundred on Dec. 10, and most important Texas points of origin will be forced to pay 4 cents more per hundred. The higher rates will make it more difficult for export buyers to obtain material in Oklahoma, Kansas and north Texas to compete with California and Gulf Coastal gasoline. Present indications are that an injunction will be sought in federal court which may delay or stop the increases.

Domestic Price Levels

Early in the week a number of refiners in Oklahoma advanced their price to 10¼ cents per gallon on 58-60, U. S. Motor gasoline. This movement was not followed by all the larger plants in the state, and the whole market did not move up to the new level. Scattered sales were made at 10¼ cents, but the bulk of the material has moved at 10 cents.

While there has been a fairly good movement of natural gasoline, price levels have been fractionally lower. Competition has been keen for orders. Although there has been some reduction in the price of 90 per cent recovery goods, the weakest product has continued to be Grade C, production of which is greatest at this time of the year.

Nothing spectacular has happened in the market for either kerosene or furnace oils. Kerosene has had a steady demand which has kept the price of 41-43 at an average of 5 cents per gallon, while 42-44, which becomes scarcer every month, is selling at a half cent above.

The first rush of furnace oil business is over and, until there is another cold wave, buying may be expected to be relatively light. Ordinarily December buying of furnace oil is good to take care of January refills of householders. Prices hold well at 3⅞ to 4⅛ cents per gallon.

Gas and Fuel Oil

The market for heavy oils in Group 3 has been somewhat disturbed the past week by offerings of resale agents out of Chicago . At the beginning of November marketers bought ahead in volume to supply the needs of their customers during the month, and also for speculation. This was bought at prices well below the level of current offerings in Oklahoma.

On top of that Smackover crude fuel has become an important factor in the Chicago market again. This oil is available at around $1.05 per barrel as compared with $1.15 and upwards for refinery fuel.

With brokers in Chicago looking for orders to close out their advance purchases for November and willing to shade their prices, actual trading in Oklahoma has been slower. Refiners have held their quotations without change, however. One sale of 30 cars of 18-22 fuel to move next week was made at $1.22½ per barrel, to be followed by 60 cars at $1.25 to move early in December.

As is usual at this season, movement of lubrication is rather slow. Prices on neutrals are unchanged from current listings, which are low compared with the cost of crude. Steam refined oils are firm. Wax is steady at 5⅜ to 5½ cents per pound.

All prices and market information printed herein have been gathered by the staff of National Petroleum News from reliable sources and so far as can be ascertained thoroughly represent the going market as defined for each product on the date given for those particular prices. Both buyers and sellers have been checked in the gathering of this information and actual sales studied.

These prices and this information are subject at all times to correction for errors. Anyone having knowledge of any facts which would indicate anything different from the information which is given, is especially urged to send in those facts to the head office of National Petroleum News at once, or take them up with the nearest representative. All such facts will be promptly and thoroughly investigated.

The staff of National Petroleum News is cognizant of the fact that this market information has come to have a high standing in the industry. It wants to not only maintain that standing, but to improve it and to that end, invites the co-operation of the entire oil industry.

T. W. Advances Stiffen Gasoline; Prices are Unchanged

CHICAGO, Nov. 23.—Only minor changes have developed in the Chicago resale market over the past week. Refiners and carload marketers have held their prices firm but jobbers have kept out of the market for the most part buying only their bare requirements. One week ago the going price for U. S. Motor gasoline was 10 cents a gallon and business was slow. Once since refiners revised prices to 10¼ cents a few sales were made at that figure for a day or so but by Friday 10 cents was being shaded by refiners outside the group. The several tank wagon advances announced Nov. 21 firmed the market up again to 10 cents flat.

Export grades of gasoline have been sought by foreign buyers until the price of high test is somewhat out of line with that of domestic U. S. motor gasoline. Late in the week, however, the inquiries were less frequent for high test material, but 64-66, 375 e.p. held firm at about 12½ cents by reason of scarcity.

Burning oils and light fuels have strengthened somewhat the last few days but prices have not risen materially. Ordinary kerosene has moved up from 5 cents to 5⅛ cents and 42-44 water white experienced a little flurry on rural buying so that its high for the week was 5¾ cents by the last of the week it could be obtained as low as 5½ cents. Residential fuel also is holding firm.

Much is being said in the trade recently about flash points on distillate and about cold test on gas oil. Apparently the consuming trade is learning how to buy the material, for jobbers are paying ¼ cent more for distillate with desirable flash and gas with zero cold test. Not considering these premiums, 38-40 distillate is holding firm at 4⅛ cents a shade higher than last week, and gas oil is steady with 3½ cents bottom figure.

Refinery fuel has barely held it price level recently but prevailing quotations for several days have been $1.25 to $1.30. 18-22 fuel oil has strengthened in the last three days and $1.20 material is about to disappear. The prevailing price now is 2½ cents higher. Smackover crude price at the well is considered disproportionately low, but there is an abundance available for processing, and crude fuel was quoted freely on Friday at $1.05.

In spite of the lack of buying on the part of gasoline jobbers and the fuel trade, a spirit of optimism permeates the Chicago oil community.

Although nobody is forecasting a tankwagon advance in the Standard of Indiana territory on gasoline, conditions are, nevertheless improving. 50 or 60 local tank wagon advances were made in Indiana territory last week adjusting market structures to normal in regions where price wars have devastated Independents profits all summer. The only one of these revisions calling for a rorrection in National Petroleum News tank wagon table is kerosene at Kansas City which on November 13 was restored to normal price of 10.3 cents paragraph.

Unfavorable weather is forecast for Standard of Indiana territory the last week of November. Except for snow flurries in the Great Lakes region, the early part of the week likely will be fair and cool but colder weather will be general after Thursday and there will be widespread precipitation, rain in the South and snow in the North. Since the middle of November Standard of Indiana territory has been exceptionally dry and mild for the time of the year.

Champion Buys Two Refineries

TULSA, Nov. 23.—Champion Oil Co. has purchased properties of the Colemen-Nelson Corp. it was announced here this week. The purchase included a 2,500 barrel skimming plant in West Tulsa and a 1,000 barrel skimming plant at Haskell as well as distributing properties in Tulsa.

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Week's Price Changes Tank Wagon Market

Gasoline Changes

Standard of New York.—T.w. and s.s. prices at Albany were reduced 2 cents to 16 cents and 18 cents respectively, **Oct. 19.** Issues of National Petroleum News since that date have carried the price erroneously as 18 cents and 20 cents.

Standard of Louisiana. — T.w. and s.s. advanced 1 cent through territory, excepting at Memphis, which was advanced 1½ cents, **Nov. 20.**

Standard of Nebraska.—T.w. and s.s. prices advanced 2¼ cents, Omaha only, to 14¼ and 16¼ cents respectively, **Nov. 13.**

Magnolia Petroleum.—T.w. and s.s. prices at Oklahoma points, where tank wagon had been below 19 cents were advanced 1 cent, **Nov. 23.** This advance brings t.w. at Oklahoma City and Tulsa to 18 cents, s.s. to 21 cents. Muskogee, where a 2 cent cut had taken place on Nov. 3, was advanced 3 cents, to 18 cents t.w., and 21 cents s.s. San Antonio was advanced 3 cents on Nov. 23, making t.w. 16 cents, and s.s. 18 cents.

Kerosene Changes

Standard of New Jersey.—T.w. price of kerosene advanced ½ cent in New Jersey and North Carolina, and 1 cent at Washington, D. C. and in Maryland, excepting at Baltimore and Annapolis which remain unchanged, **Nov. 23.** This brings t.w. prices of kerosene to a 13.5 cent level throughout territory, excepting at Baltimore which remains 10 cents, Annapolis which remains 12.5 cents, and Washington, which was advanced to 12.5 cents.

Standard of Indiana.—Kerosene at Kansas City advanced 3 cents to 10.3 cents, **Nov. 13.**

Benzol Market Firm. Output Gains

Special Correspondent

NEW YORK, Nov. 23.—Production of benzol is soaring. For the week ended Nov. 7 output was next to the largest so far this year. Coke production is unusually heavy and is expected to show further marked gains. Consequently production of benzol is also expected to show a marked increase from now on.

The price has not changed. Most of the big distributors are still quoting 23 cents a gallon, in tank cars at ovens for spot motor benzol, while 90 per cent and pure are both quoted at 24 cents a gallon same basis. The demand from motor fuel mixture manufacturers is still large. Export demand is good, but marketers are not anxious to close foreign orders in view of the small stocks.

Tank Wagon, Service Station Markets for Gasoline and Kerosene In United States Territories and Canada

BELOW are given in cents a gallon, the tank wagon price of gasoline without the special taxes levied against motor fuels by many states, the amount of the state taxes, the total tank wagon price, with tax added in and the service station or retail price of gasoline as quoted by the Standard Oil Companies in their various marketing territories. The right hand column is the tank wagon price of kerosene. By tank wagon price is meant the price to resale agents or dealers.

These Prices in Effect November 23, 1925

S. O. NEW JERSEY TERRITORY

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
Atlantic City, N. J.	15	0	15	*	13.5
Newark, N. J.	15	0	15	17	13.5
Annapolis, Md.	15	2	17	*	12.5
Baltimore, Md.	15	2	17	20	10
Cumberland, Md.	15	2	17	20	13.5
Washington D. C.	15	2	17	20	12.5
Danville, Va.	15	3	18	*	13.5
Norfolk, Va.	15	3	18	21	13.5
Richmond, Va.	15	3	18	21	13.5
Roanoke, Va.	15	3	18	21	13.5
Petersburg, Va.	15	3	18	*	13.5
Williamsburg, Va.	15	3	18	*	13.5
Charleston, W. Va.	15	3½	18.5	21.5	13.5
Clarksburg, W. Va.	15	3½	18.5	21.5	13.5
Keyser, W. Va.	15	3½	18.5	*	13.5
Parkersburg, W. Va.	15	3½	18.5	21.5	13.5
Wheeling, W. Va.	15	3½	18.5	21.5	13.5
Charlotte, N. C.	15	4	19	22	13.5
Hickory, N. C.	15	4	19	*	13.5
High Point, N. C.	15	4	19	*	13.5
Mt. Airy, N.C.	15	4	19	*	13.5
Salisbury, N. C.	15	4	19	*	13.5
Charleston, S. C.	15	5	20	23	13.5
Columbia, S. C.	15	5	20	23	13.5

*Dealers set own prices. S. O. New Jersey does not operate station.

S. O. NEW YORK

*New York City	17	0	17	21	14
Albany, N. Y.	†16	0	†16	†18	14
Buffalo, N. Y.	14	0	14	17	14
Rochester, N. Y.	†14	0	†14	†18	14
Syracuse, N. Y.	16	0	16	18	13
Boston, Mass.	16	0	16	20	12
Augusta, Me.	16	3	19	22	14
Manchester, N. H.	16	2	18	22	14
Burlington, Vt.	16	2	18	21.5	14

*In steel barrels.
†At Rochester and Albany, Standard sells two grades of gasoline, the above price applying to its Socony grade, and another grade being sold 2c below this price.

ATLANTIC REFINING

Pittsburgh, Pa.	17	0	17	*22	14
Philadelphia, Pa.	17	0	17	*22	14
Allentown, Pa.	17	0	17	*22	14
Erie, Pa.	17	0	17	*22	14
Scranton, Pa.	17	0	17	*22	14
Altoona, Pa.	17	0	17	*22	14
Dover, Del.	17	2	19	22	14
Wilmington, Del.	17	2	19	22	14
Providence, R. I.	16	1	17	20	13
Springfield, Mass.	16	0	16	19	13
Worcester, Mass.	16	0	16	19	13
Hartford, Conn.	16	2	18	21	12
New Haven, Conn.	16	2	18	21	13
Boston, Mass.	16	0	16	19	13

*Contains 2-cent tax collected by retail dealer and paid by him directly to state.

S. O. KENTUCKY

Lexington, Ky.	15	3	18	21	14
Louisville, Ky.	17	3	20	23	12
Covington, Ky.	16	3	19	22	14
Clarksdale, Miss.	16	3	19	22	12
Jackson, Miss.	16	3	19	22	11
Natchez, Miss.	15.5	3	18.5	21.5	11.5
Vicksburg, Miss.	15.5	3	18.5	21.5	11.5
Birmingham, Ala.	17	2	19	22	14.5
Mobile, Ala.	16	2	18	21	11
Montgomery, Ala*	18	2	20	23	15.5
Atlanta, Ga.	17.5	3½	21	24	13
Augusta, Ga.	18.5	3½	22	25	14.5
Macon, Ga.	18.5	3½	22	25	13.5
Savannah, Ga.	13.5	3½	17	20	13
Jacksonville, Fla.	16	4	20	23	13
Miami, Fla.	18	4	22	25	14.5
Tampa, Fla.	16	4	20	23	13
Pensacola, Fla.	16	4	20	23	13.5

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included.

S. O. INDIANA

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
Chicago, Ill.	†16	0	†16	18	11
Decatur, Ill.	11	0	11	13	11.5
E. St. Louis, Ill.	15.1	0	15.1	17.35	10.6
Joliet, Ill.	16.4	0	16.4	18.4	11.7
Peoria, Ill.	10.5	0	10.5	12.5	11.5
Quincy, Ill.	16.2	0	16.2	18.2	11.3
Indianapolis, Ind.	16.2	3	19.2	21.2	11.7
Evansville, Ind.	15	3	18	20	11.5
South Bend, Ind.	16.4	3	19.4	21.4	11.9
Detroit, Mich.	16.8	2	18.8	20.8	12.2
Grand Rapids, Mich.	16.7	2	18.7	20.7	12.1
Saginaw, Mich.	16.9	2	18.9	20.9	12.3
Madison, Wis.	16.3	2	18.3	20.3	11.5
Milwaukee, Wis.	16.1	2	18.1	20.1	11.3
La Crosse, Wis.	17.2	2	19.2	21.2	12.4
Minneapolis, Minn.	13.2	2	15.2	17.2	12.6
Duluth, Minn.	13.5	2	15.5	17.5	12.6
Mankato, Minn.	17.1	2	19.1	21.1	12.4
Des Moines, Iowa	13.5	2	15.5	17.5	11.9
Davenport, Iowa	16.5	2	18.5	20.5	11.9
Sioux City, Iowa	16	2	18	20	11.5
Mason City, Ia.	16.5	2	18.5	20.5	11.9
St. Louis, Mo.	**15.6	2	17.6	19.9	11
Kansas City, Mo.	††15.9	2	17.9	19.9	10.3
St. Joseph, Mo.	**16	2	18	20	10.9
Fargo, N. D.	18.9	1	19.9	21.9	14.6
Grand Forks, N. D.	19.2	1	20.2	22.2	14.9
Minot, N. D.	18.9	1	19.9	21.9	14.6
Pierre, S. D.	18	3	21	*	13.1
Huron, S. D.	13	3	16	18	13.1
Wichita, Kans.	8.8	2	10.8	12.8	10.8
Bartlesville, Okla.	13.9	3	16.9	18.9	9.9

†Dumps of 100 or more gallons at 15c per gallon.
*S. O. Indiana does not operate station.
**Includes city tax of ½c.
††Includes city tax of 1c.

S. O. NEBRASKA

Crawford, Neb.	17	2	19	*	12.25
Omaha, Neb.	12.25	2	14.25	16.25	11.5
McCook	17.75	2	19.75	21.75	13
Norfolk	16.75	2	18.75	20.75	12
North Platte	17.75	2	19.75	21.75	12.75
Scottsbluff	17.25	2	19.25	21.25	12.25

*Standard has no service station here.

CONTINENTAL OIL

Denver, Colo.	16	2	18	20	14.5
Pueblo, Colo.	16	2	18	20	14.5
Casper, Wyo.	17	2½	19.5	21.5	13
Cheyenne, Wyo.	17	2½	19.5	21.5	14.5
Butte, Mont.	19	2	21	21	16
Helena, Mont.	21	2	23	25	17
Salt Lake City, Utah	18.5	3½	22	24	18
Boise, Ida.	20	3	23	25	20
Albuquerque, N.M.	20.5	3	23.5	26.5	16.5

S. O. CALIFORNIA

Phoenix, Ariz.	20	3	23	26	21.5
Los Angeles, Cal.	10.5	2	12.5	16.5	15.5
Fresno, Cal.	14.5	2	16.5	20.5	17.5
San Francisco, Cal.	14	2	16	20	15.5
Reno, Nev.	17.5	4	21.5	25.5	19
Portland, Ore.	14	3	17	21	16.5
Seattle, Wash.	14	2	16	20	16.5
Spokane, Wash.	18	2	20	24	20.5
Tacoma, Wash.	14	2	16	20	16.5

S. O. LOUISIANA

Little Rock, Ark.	13.5	4	17.5	20.5	10.5
Alexandria, La.	14	2	16	19	11.5
Baton Rouge, La.	13	2	15	18	10
Lake Charles, La.	14.5	2	16.5	19.5	11.5
New Orleans, La.	*14.5	2	16.5	19.5	10.5
Shreveport, La.	13	2	15	18	10.5
Lafayette, La.	14	2	16	19	11
Bristol, Tenn.	14.5	3	17.5	20.5	13
Chattanooga, Tenn.	13	3	16	19	13
Knoxville, Tenn.	14	3	17	20	13.5
Nashville, Tenn.	13	3	16	19	13
Memphis, Tenn.	12	3	15	18	12.5

*Includes 1c city tax on gasoline and kerosene.

S. O. OHIO

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
All Ohio points	16	2	18	20	13

MAGNOLIA PETROLEUM

Muskogee, Okla.	15	3	18	21	11
Oklahoma City	15	3	18	21	12
Tulsa, Okla.	15	3	18	21	12
Fort Smith, Ark.	14	4	18	21	11
Little Rock, Ark.	12.5	4	16.5	19.5	10
Texarkana, Ark*	15	4	19	23	12.5
Dallas, Tex.	16	1	17	19	11
El Paso, Tex.	17	1	18	19	13
Fort Worth, Tex.	13	1	14	16	10
Houston, Tex.	16	1	17	19	12
San Antonio, Tex.	15	1	16	18	10

*Within city of Texarkana, Ark., the state tax on gasoline is 1c per gal. conforming with the Texas state tax. In Texarkana district outside of the city the 4c state tax applies.

V. M. & P. NAPHTHA

Changes ordinarily occur coincident with gasoline)

	Oleum Spirits	V.M.& P. Naphtha	Cleaners Naphtha
Chicago	18	20	20
Detroit	19.2	21.7	21.7
Kansas City	18.2	20.2	20.2
Milwaukee	18.2	22.7*	22.7*
Minneapolis	19.5	24*	24*
St. Louis	17.4	19.9	21.2
New York		17	.....

*Including state tax.

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

ONTARIO

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
Toronto	23.5	3	26.5	30	20
Ottawa	24.5	3	27.5	31	21
Cochrane	28.5	3	31.5	35	24.5
Ft. William	27.5	3	30.5	34	22.5

MANITOBA

Winnipeg	27.5	3	30.5	34	22.5

SASKATCHEWAN

Regina	30.5	0	30.5	34	25.5

ALBERTA

Edmonton	29.5	2	31.5	37	27.5
Calgary	29.5	2	31.5	35	25.5

BRITISH COLUMBIA

Vancouver	21	3	24	28	23

QUEBEC

Montreal	23.5	3	26.5	30	20
Quebec City	25.5	3	28.5	31	22
Three Rivers	25.5	3	28.5	32	22

NEW BRUNSWICK

St. John	26.5	0	26.5	30	25
Moncton	26.5	0	26.5	30	25

NOVA SCOTIA

Halifax	26.5	0	26.5	30	25
Sydney	28.5	0	28.5	32	25

PRINCE EDWARD ISLAND

Charlottetown	26.5	2	28.5	33	25

Note: In districts surrounding these points 1c additional is added to city price.

Complete Export Markets

New York Gulf Coast California

Export Gasoline Market is Firming Bunker Oils Advanced

By Special Correspondent
NEW YORK, Nov. 23

THE sharp advance in 64 gravity gasoline at the Gulf featured the export market last week. Offerings of this grade were scarce at 14¾ to 15 cents a gallon.

Another development of importance was the advance of from 5 to 10 cents a barrel in bunker oil at the Gulf.

Kerosene also showed strength in export markets, with virtually no water white or prime white below 7 and 6 cents a gallon respectively at Gulf ports. Bulk export buying was heavier and, in addition to several mixed cargoes, a bulk cargo of 32 plus dark gas oil was sold.

Another development of interest at New York was an inquiry from Greece for a bulk cargo of U. S. Motor gasoline. Demand from this source is usually for cased goods.

Gasoline—Gulf Ports

Bulk demand for gasoline was more spirited. A French subsidiary of a leading refiner placed two cargo orders with the latter, for prime and water white kerosene and U. S. Motor and 64 gravity gasoline, but the prices were not given. These cargoes called for approximately 50,000 barrels each for December and January loading.

In addition to the above business, a leading independent closed a similar cargo for December-January shipment to France, at around 6⅞ to 7 cents for water white kerosene; 5⅞ to 6 cents for prime white; 10¾ cents for U. S. Motor and 14½ cents for 64 gravity. Gasoline is stronger for future shipments. One of the leading independents is asking 11 cents for motor and 15 cents for 64 gravity for the second half of December shipment; 12¾ cents for motor and 16 cents for 64 gravity for late January shipment and 14 cents for motor and 17 cents for 64 gravity for February shipment.

Cased gasoline demand is better. There is a large consignment movement to the Near East, while leading independents are shipping large quantities to Australasia and Japan on contract. Most of last weeks buying was credited to South American and Oriental buyers, but details were withheld. Cased Motor is still held at $2.25 a case and 64 gravity at $2.55, but an advance is looked for soon owing to the jump in bulk gasoline.

Gasoline—New York

There was an inquiry in the market for approximately 40,000 barrels of U. S. Motor for December shipment to Greece, but whether this was closed was not made public. Demand from Greece is usually for cased goods. U. S. Motor is firmer at local refineries at 11¼ to 11½ cents a gallon and virtually all of the 11 cents gasoline has been cleaned up. Cased goods ruled quiet, the movement being mainly against standing contracts.

Domestic Gasoline

Locally U. S. Motor was quoted at 12 to 12½ cents a gallon, in tank cars delivered to the trade. There has been a marked improvement in the demand from jobbers, regardless of the colder weather and distribution continues good. According to reports received from other centers, the Atlantic Seaboard markets, although firmer of late, are still weak in relation to other markets.

Local marketing agencies, however, are gaining confidence, and persistent reports of an impending upturn in crude oil prices has tended to dispel the bearish sentiment that has dominated gasoline in these parts for a long time. The price in steel barrels to garages is held at 17 cents a gallon, regardless of the fact that up-state prices are quoted at 16 cents, and that some local retailers are selling at 16 cents a gallon..

Bunker Oil

The price of bunker oil for bunkering purposes was advanced from 5 to 10 cents a gallon Nov. 19. At Houston, Baton Rouge, New Orleans, Galveston and Texas City, Grade C was quoted at from $1.55 to $1.60, and $1.50 flat in cargo lots. At Tampico the price was $1.40 a barrel, including taxes, while heavy Panuco crude oil was steady at $1.20 a barrel, taxes to be added.

Reflecting the strength along the Gulf Grade C was stronger at $1.65 a barrel, refinery. No further price shading developed, and conditions have shown marked improvement. The coal strike has stimulated consumption of fuel oil. Some local factors have been predicting an advance in bunker oil soon. Diesel oil remained quiet but steady at $1.99½ a barrel, refinery. Business was mainly against contracts, and no fresh buying of consequence was reported.

Kerosene—Gulf Ports

Both prime and water white kerosene ruled firmer at the Gulf. Refiners were demanding 6 cents for the former, and 7 cents for the latter. It is very doubtful if much could have been had ⅛ cent below these figures. The improved export demand, coupled with increased domestic consumption, in addition to rumors of impending crude oil advances, have strengthened this market. There is little or no pressure to sell. A United Kingdom buyer was inquiring for a cargo of 35,000 barrels, of prime and water white and U. S. Motor gasoline, but this failed to materialize.

Kerosene—New York

At local refineries water white is firm at 8 cents a gallon refinery, and 9 cents in tank cars delivered to the trade. No export buying of consequence was reported. One independent reported the sale of 5000 cases of prime and water white for December shipment to South America. Another was working on an order for 35,000 cases for January shipment to the Orient, presumably China. Domestic demand for kerosene is improving steadily. Jobbers are stocking up, reflecting heavier consumption. The tank wagon price was firm at 14 cents a gallon.

Gas Oil

One company reported sale of a cargo of 35,000 barrels of 32 plus dark gas oil from a North Atlantic port to France at 4½ cents a gallon. This was the only bulk movement reported. In the Gulf section this grade was quoted at 4⅜ cents, while 26-28 transparent was held at 4½ cents a gallon. Prices were steady the greater part of the week. Stocks are fair.

Locally 36-40 was held at 5 cents a gallon, refinery, throughout the week. Demand has been fairly good, but most of the buying has been in small quantities. No export purchases were disclosed. For 28-34 the asking price was 4¾ cents a gallon, refinery. Furnace oil was nominally quoted at 6¼ cents a

gallon, refinery. Stocks of this oil are depleted as result of the coal strike and few offerings were reported.

Wax

Paraffin waxes slumped last week. prices were appreciably weaker at the close, with both foreign and domestic buyers showing little or no interest. White crude scale 122-124 A. M. P. was offered freely at 5¾ cents, with virtually no interest at this figure, while 124-126 A.M.P. was flat and unchanged at 5⅞ cents. The demand for semi-refined was also slow at 5⅞ cents for 122-124 A. M. P.

Match 105-108 A. M. P. was steady at 6 cents. Fully refined waxes were more or less neglected. For 120-122 A. M. P. local marketers were asking 6⅛ cents, but there was little interest at this figure. Buyers ideas appear to be about ¼ to ½ cent a pound under these prices. One factor cabled four large continental buyers, "attractive offerings" but did not even receive a reply.

The Gulf wax market was also softer, and white crude scale 124-126 A. M. P. was quoted at 5½ cents, while 125-127 A. M. P. fully refined was held at 6⅛ cents with little interest shown. For semi-refined 124-126 A. M. P. the price was weak at 5⅝ cents a pound.

Petrolatums

The movement in snow white petrolatum has shown a marked increase, but demand is mainly for domestic consumption. Foreign buyers are holding off pending developments. The price schedule has been fairly steady of late. Stocks abroad are believed to be small, in view of the hand-to-mouth buying that has been going on for some time back. Lily white is steadier, while dark green was moving in a larger way. The request for amber and dark amber was slightly better.

Medicinal oils show the usual increase in demand for this time of the year, but export buying is sluggish, and no bulk movements have been reported. Prices are steady and unchanged.

Pacific Export Market

Cargo lots quotations at seaboard, Los Angeles)

	Nov. 31	Nov. 14
Gasoline, U. S. Motor— 54°—56°	7½- 9	7½- 9
Gasoline—U. S. Motor blends and special cuts	8 - 9½	8 - 9½
Gas Oil, 24°—30°B. per bbl	$1.15	$1.15
Diesel Oil, 27°B—plus per bbl	$1.15	$1.15
Bunker Oil, 14°—18°B. per bbl	$1.00	$1.00
Fuel Oil, 14°—18°B. per bbl	$1.00	$1.00
Kerosene, W. W. 40°—42° B per gal., 125-150 flash test	05 -05½	05 -06½
Cased Goods		
Gasoline, U. S. Motor	$2.25	$2.25
Kerosene, W. W. 40°—42° B per case, flash test 125-150	$1.40-1.50	$1.40-1.50

New York Export Market

Prices below are an index to the export markets as of the dates given. In many cases they are actual sales prices. So many factors enter into the price in export transactions that an actual market price governing the bulk of transactions cannot be given.

GASOLINE	Nov. 23	Nov. 16
U. S. Motor, Bulk, Ref	11½	-11
KEROSENE		
45-150 W. W. Bulk Ref	08	-08
GAS OIL		
36-40, Bulk Refinery	-05	-05
28-34, Bulk Ref	-04¾	-04¾
BUNKER OIL		
Grade C, Ref....Bulk	1.65	-1.65
Diesel Oil Ref....Bulk	1.99½	-1.99½

LUBRICATING OILS

The following prices are cooperage basis f. o. b. New York, products being manufactured by inland refineries.

CYLINDER OILS (bbls.) 1 inch Immersion Test		
Penna. Filtered D 600	32	-32
Penna. Filtered E 600	29	-29
Unfiltered 600 s. r	23½-24	-24
Unfiltered 650 s. r	30½	-30½
600 flash s. r	33	-33
Penna. 650 Flash	42	-42

RED PARAFFIN (bbls.)		
300 vis. at 100°F....No. 5	21½	-21½
250 vis. at 100°F....No. 5	20½	-20½
High Viscosity Paraffin No. 5	26	-26
.885 s.g.pale 100 vis. at 100°F.	14½-15	14½-15

Neutral Oils (bbls.)		
200 vis. at 70° F. Pale...No. 3	-31½	-31½
180 Pale. 70....No. 3	-29¼	-29¼
150 Pale..70....No. 3	-25	-25

BLACK OIL (bbls.)				
25-30 cold test	14	-15	14	-15
15 cold test	15	-15½	15	-15½

MEDICINAL OILS (Cooperage Basis) (Penna. Stocks)	Nov. 23	Nov. 16
Domestic.875-.885s.g.drums	1.00-1.08	1.00-1.08
Domestic.865-.870s.g.drums	.75- .80	.75- .80
Russian.885-.890s.g.325-350 vis. drums	1.25-1.20	1.25-1.25

WAXES (Penna. Stocks) (F. A. S. Carload Lots)		
WHITE CRUDE SCALE		
122-124 A. m. p.	-05¾	-05¾
124-126 A. m.p.	-05¾	05¾-06
MATCH		
105-108 A. m. p.	-06	-06
FULLY REFINED		
120-122 A. m. p.	06¾	-06¼
123-125 A. m. p. Philadelphia	06¼	-06¼
125-127 A. m. p.	06¼	-06¼
128-130 A. m. p.	06¼	-06½
130-132 A. m. p.	06¾	-06¾
133-135 A. m. p.	06¾	06¾-07
135-137 A. m. p.	-07¼	-07¼
SEMI REFINED		
122-124 A. m. p.	-05¾	05¾
YELLOW CRUDE SCALE		
124-126 A. m. p.	05¼	-05¼

PETROLATUMS (Penna. Stocks)		
Dark Green	02¾	02¾
Veterinary	03¼	03¼
Light Amber	03½	03½
Dark Amber	03¼	03¼
Cream	06½	06½
Lily White	08¼	08¼
Snow White	10½	10½

N. Y. Export Quotations

Illuminating Oils
Standard Oil of New Jersey

	Nov. 23	Nov. 16
Bulk, gal., Bayonne		
Barrels, gal., Bayonne, cargo		
Cases, gal., Bayonne	17.15	17.15

Prices for water white oil (150 test) are 1 cent higher than those for standard white.

Gasoline-Naphtha
(Cents per Gallon)

U. S. Motor, dead bulk		
U. S. Motor, cases	27.15	27.15
Export Naphtha bulk		
*62-63 deg. bulk		
66-68 deg. bulk		

*Grade changed from 64-66 to 62-63 Jan. 9.

Tide Water Oil Company
(f. o. b. Bayonne)

58-59 deg. bulk		
58-59 deg. cases	27.15	27.15
Export grade, U. S. Motor Specifications bulk		
68-72 deg. bulk		

	Bulk Barrels	Cases
Standard white 110		17.40
Water white 150		18.40

The Texas Company

Gasoline, cases	27.15	27.15

Kerosene	Bulk Barrels	Cases
Standard White		17.40
Prime White		17.90
Water White		18.40

Gulf Export Market

Gasoline

	Nov. 23	Nov. 16
U. S. Motor, Cargo	10¾-.11	10½-.11
60-62 400 e. p. Bulk	.13¼	-.12¾
64-66, 385 e. p. Bulk	14¾-.15	13½-.14¼
U. S. Motor, Cases (cargo lots)	2.25	2.25
64-66, Cases (cargo lots)	2.55	2.55

KEROSENE		
Water White, bulk	-07	06¾-.07
Prime White, bulk	-06	05¾-.06
Water White, cases (cargo lots)	1.70	1.70
Prime White, cases (cargo lots)	1.60	1.60

GAS AND BUNKER OIL		
26-28, gravity, bulk. Transp	04½	-04¾
32 plus, bulk, Dark	04¾	-04¾
Grade C, Bunker oil	1.50-1.60	-1.50

MEXICAN CRUDE AND BUNKER OILS		
Heavy, f.o.b. Tampico, Taxes to be added	1.20	-1.20
Mexican Grade C, Bunker oil F. O. B. Tampico Taxes paid	1.40	1.45
Mexican C, Bunker oil New Orleans	1.50	1.50

Lubricating Oils
SOUTH TEXAS
(Viscosity at 100°F; cold test 0)
(Tanker, F. O. B. Houston)

	Nov. 23	Nov. 16
100 Vis. No. 2 Unfiltered Pale	07	07
150 Vis. No. 2½ Unfiltered Pale	10	10
200 Vis. No. 3 Unfiltered Pale	11½	11½
300 Vis. No. 3 Unfiltered Pale	13½	13½
500 Vis. No. 3½ Unfiltered Pale	15½	15½
200 Vis. No. 5½ Red Oil	10½	10½
300 Vis. No. 5½ Red Oil	12	12
500 Vis. No. 6 Red Oil	14	14
800 Vis. No. 6 Red Oil	19	19

Price Wars Come To End In Indiana Territory

CHICAGO, Nov. 23.—Some 50 or 60 changes in the tank wagon market on gasoline have been recorded by the record office of the Standard Oil Co. of Indiana during the past week. All were local revisions affecting limited territories. None of the gasoline changes have taken place in towns carried in the tank wagon table in National Petroleum News. However, the revisions have been upward each one marks the end of some small-town price war. It is obvious that the rising tank car price is having a salutary effect on the jobbers' business.

The only recent price revision calling for a price change in the table is the advance in the kerosene price at Kansas City from 7.3 cents to 10.3 cents on Nov. 13. Kansas City kerosene price is now normal. Two errors have been running recently in the price table of B. M. & P. Naphtha. Since Oct. 13 the tank wagon price of Oleum Spirits in Detroit has been 19.2 cents a gallon. And since Sept. 29 the tank wagon price of Cleaners' Naphtha in Kansas City has been 20.2 cents a gallon.

Bull Market Evident In Pennsylvania

CLEVELAND, Nov. 23.—Pennsylvania refiners report conditions very favorable for a continuation of the present sound market tone throughout the field. With the advance of 25 cents in crude this morning and the fact that shipments have been on the increase for the past week, together with the scarcity existing in neutral and cylinder stocks and wax, they feel that the market will move in accordance.

Kerosene is moving in large quantities with a prevailing price of 7¼ cents although it is commanding 7½ cents at some points. Gasoline appeared sluggish for a while during the past week but seems to have picked up again and is holding firm.

N. Y. Domestic Market

The following light oil, gas and fuel oil prices are F. O. B. New York refineries, being products made from Domestic (including California) and Mexican Crudes.

	Nov. 23	Nov. 16
U. S. Motor Gasoline, Tank Cars Delivered	-12½	-12
U. S. Motor Gasoline, Tank Cars Bayonne	-11½	10¾-11
Kerosene, 45-150 W. W. Tank, Cars Del'd	-08	-.09
Grade C Bunker f.o.b. N.Y.	1.65	1.65
Diesel Oil f.o.b. Refinery	1.99½	1.99½
Gas Oil, 36-40, Bulk Refinery	-05¼	-05
Gas Oil, 28-34 Bulk, Refinery	-05	-04¾

*nominal

Crude Oil Prices All Fields

ALL PRICES EFFECTIVE, *Nov. 23*

EASTERN FIELDS
Posted by Joseph Seep Purchasing Agency

Penna. Grade Oil in New York Transit Lines (Alleghany, N. Y. District)	$3.40
Bradford District Oil in National Transit Lines (Bradford District)	3.40
Penna. Grade Oil in National Transit Lines (Other Pennsylvania)	3.30
Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania)	3.30
Penna. Grade Oil in Eureka Pipe Lines (West Virginia)	3.25
Penna. Grade Oil in Buckeye Pipe Lines (Ohio)	3.05
Gaines, Tioga Co. (Pa.)	$2.95
Cabell Grade in Eureka Pipe Lines (West Virginia)	2.10
Corning Grade in Buckeye Pipe Lines (Ohio)	1.95
*Somerset Medium in Cumberland Pipe Lines (Kentucky)	2.20
*Somerset Light in Cumberland Pipe Lines (Kentucky)	2.35
Ragland Grade in Cumberland Pipe Lines (Kentucky)	1.10

*Somerset oil run prior to Oct. 1, 1923, takes price of 6 cents lower than above quotations.

CENTRAL STATES FIELDS
Posted by Ohio Oil Co.

Wooster	$2.00	Indiana	$1.78	Plymouth	$1.46
Lima	1.98	Princeton	1.87	*Canadian Petrolia	2.38
		Illinois	1.87	*Posted by Imperial Oil, Ltd.	

OKLAHOMA, KANSAS And NORTH TEXAS FIELDS
(Prices of Prairie Oil & Gas Co.)
(Prairie's prices apply in Oklahoma, Kansas, North and Central Texas.)

*28-28.9	$1.15	34-34.9	$1.63	40-40.9	$2.11
29-29.9	1.23	35-35.9	1.71	41-41.9	2.19
30-30.9	1.31	36-36.9	1.79	42-42.9	2.27
31-31.9	1.39	37-37.9	1.87	43-43.9	2.35
32-32.9	1.47	38-38.9	1.95	44 and above	2.43
33-33.9	1.55	39-39.9	2.03		

*Effective Nov. 1, Prairie announced to its present customers that it would deduct 8c per barrel for every degree below 28 gravity on Mid-Continent and North Texas crude. It will pay $1.07 for 27-27.9, 99c for 26-26.9, etc. New quotations are not added to present schedule inasmuch as Prairie is not in the market for new connections on this low gravity crude.

Humble Oil & Refining Co. Prices
(Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie and Moran crudes, all in Texas.)

Below 28	$1.07	33-33.9	$1.55	39-39.9	$2.03
28-28.9	1.15	34-34.9	1.63	40-40.9	2.11
29-29.9	1.23	35-35.9	1.71	41-41.9	2.19
30-30.9	1.31	36-36.9	1.79	42-42.9	2.27
31-31.9	1.39	37-37.9	1.87	43-43.9	2.35
32-32.9	1.47	38-38.9	1.95	44 and over	2.43

Magnolia Petroleum Co. Prices

*In Oklahoma and Kansas		**In North Texas	
Below 28	$1.00	Below 28	$1.00
28-30.9	1.31	28-30.9	1.35

*Remainder of Magnolia's gravity schedule in Oklahoma and Kansas begins with 31-31.9 and follows Prairie schedule.

**Remainder of Magnolia's gravity schedule in North Texas begins with 31-31.9 and follows Humble schedule

NORTH LOUISIANA—ARKANSAS FIELDS
***Prices of the Standard Oil Co. of Louisiana**

Caddo, below 32	$1.65	Haynesville, below 33	$1.55	Smackover, 24-24.9	$1.15
do 32-34.9	1.75	do 33 and above	1.65	do 25-25.9	1.20
do 35-37.9	1.85	El Dorado, below 33	1.55	do 26-26.9	1.25
do 38 and above	1.95	do 33 and above	1.65	do 27 and above	1.30
Homer, below 31	1.40	Bull Bayou, 32-34.9	1.45	De Soto	1.80
do 31-32.9	1.55	do 35-37.9	1.60	Crichton	1.60
do 33-34.9	1.65	do 38 and above	1.75	Bellevue	1.65
do 35 and above	1.75	Smackover, below 24	.85	Cotton Valley	1.10

*Same prices maintained by The Texas Co. and Gulf Production Co. The Texas Co. buys in Caddo, Bull Bayou, De Soto, Crichton and Smackover fields.

STEPHENS, ARKANSAS
Posted by Louisiana Oil Refining Corp., and Atlantic Oil Producing Co.

26 and above	$1.40	Below 26	$1.20

SMACKOVER, ARKANSAS
Prices of Louisiana Oil Refining Corp.

Below 24	$0.85	25-25.9	$1.25	27 and above	$1.35
24-24.9	1.15	26-26.9	1.30		

SMACKOVER, ARKANSAS
Prices of Atlantic Oil Producing Co. and Shreveport-Eldorado Pipe Line Co.

Below 24	$0.90	25-25.9	$1.25	27 and above	$1.35
24-24.9	1.15	26-26.9	1.30		

GULF COASTAL FIELDS
(Posted by Humble Oil & Refining Co., The Texas Co., Gulf Production Co., Sun Oil Co. and Sinclair Crude Oil Purchasing Co.)

Grades A	$1.50	Grades B	$1.25

Goose Creek, Hull, Orange and Pierce Junction are the only Gulf Coastal fields that have A and B grade classifications. All other fields are classified as A grades only.

ROCKY MOUNTAIN FIELDS
Prices of Ohio Oil Co. and Midwest Refining Co.

†Salt Creek 29-29.9	$1.23	36-36.9	$1.79	Rock Creek	$1.75
30-30.9	1.31	37 and above	1.87	†Osage	1.90
31-31.9	1.39	Elk Basin	1.90	†Cat Creek, Mont.	1.90
32-32.9	1.47	Grass Creek light	1.90	Sunburst, Mont.	1.55
33-33.9	1.55	Big Muddy	1.75	†Hogback, N. Mex.	1.95
34-34.9	1.63	Lance Creek	1.90	Artesia, N. Mex.	1.45
35-35.9	1.71				

†Posted by Midwest Refining Co. Midwest also buys Grass Creek light, and Elk Basin. The Texas Co. buys Salt Creek crude.

CALIFORNIA
Prices of Standard Oil Co. of California

Standard Oil Co. of California on Sept. 22 reduced California crude from 10 to 35 cents per barrel and posted 19 new price classifications in the various fields. Instead of paying the same price for the same gravity of oil in all fields regardless of the value of the oil, as it previously has done, the Standard put into effect a new schedule which provides a different schedule of prices for each field and takes into account the varying values of oils of the same gravity in the different fields.

On Oct. 27, it further reduced heavy oils in amounts ranging up to 15 cents. New base price for heavy oils in the San Joaquin Valley is 75 cents, in Southern California fields, 85 cents, and in the Rosecrans-Dominguez, Santa Maria and Ventura county fields, it is $1 per barrel for 14 to 14.9 gravity. Light oils remain unchanged.

The new complete schedule of prices in California can be obtained from the editorial department of National Petroleum News on application.

REFINERS' and COMPOUNDERS' SUPPLIES

Following are the average market prices for the week on materials used by refiners and compounders f. o. b. shipping point as effective this date.

Refiners' Supplies

	Nov. 23	Nov. 16
Soda Ash light 58% bags cwt.	-$1.38	-$1.38
Silicate of Soda 60 deg. drums.....cwt.	- 1.70	- 1.70
Sal Soda wks.....cwt.	1.10- 1.25	1.10- 1.25
Caustic Soda 70% solid..cwt.	- 3.10	- 3.10
Chloride of Lime.....cwt. works.....	-2.00	- 2.00
Sulphuric Acid 60 deg. tank cars f. o. b. shipping point.....per ton	-10.50	-10.50

Compounders' Supplies (Open Market)

Vegetable Oils—		
Linseed carloads spot.....lb.	12.8	12.8
February.....	12.8	12.8
Tanks, spot.....	12	12
Boiled carloads spot.....lb.	12.9	12.9
*Soya Bean spot, Bbls....lb.	13½	13¼

Animal Oils—		
English Degras.....lb.	.05½	-.05½
Domestic Degras, bbls., carloads.....lb.	-.04¾	-.04¾
*Horse.....lb.	-.10	-.10
Oleic Acid—		
Dist. Bbls.....lb.	.11½-.12	.11½-.12
Saponified Bbls.....lb.	.11½-.12	.11½-.12
Castor Oil—		
No. 3 Carlots, Bbls.....	-.15	-.15
No. 1 Carlots, Bbls.....	-.15½	-.15½
Lard Oils—		
Prime		
Winter Strained. 1 to 1½ffa.40‡45c.t.lb.	.19¾	.18¾
Extra Winter Strained. 2 to 4½ffa.40/45c.t.lb.	.15	.14¾
Extra..... 4 to 5 ffa.40/45c.t.lb.	.14¼	.13¾
Extra No. 1 7 to 10 ffa.40/50c.t.lb.	.13¾	.13¼
No. 1.....15 to 18 ffa.40/45c.t.lb.	.13¼	.13
No. 2.....22 to 23 ffa.40/45c.t.lb.	.12¾	.12½
Prime Edible Tallow under 1¾ffa. 40/45c.t.N.Y.....lb.	-.11¾	-.11¼
Tallow acidless.....lb.	-.12¾	-.13½
Lard Stearine.....lb.	-.18¾	-.20
Oleo Stearine.....lb.	-.14	-.13
Neatsfoot Oil—		
Pure.....bbls.-lb.	.14¾	.14¾
Extra.....do lb.	.13¾	.13¾

No. 1.....bbls.-lb.	.13¼	.13
Cold pressed.....lb.	.17¾	.17½
Fish Oils—		
Menhaden Oil		
Light pressed.....gal.	.67-.70	67-.70
White.....gal.	.70-.72	70-.72
Yellow bleached.....gal.	.73-.75	73-.75
*Herring tank cars coast.....gal.	-.50	-.50
Whale, extra winter bleached.....gal.	-.82	-.82
Seal.....gal.		Nominal
Naval Stores—		
Turpentine, N. Y.....gal.	1.10	1.13
Turpentine†.....gal.	1.05	1.07
Rosin, B. N. Y.....Bbl.	15.60	15.70
Rosin, F. N. Y.....Bbl.	15.60	15.70
Rosin, B†.....Bbl.	14.10	14.15
Rosin, F†.....Bbl.	14.10	14.15
Rosin Oil 1st run.....gal.	.85	.85
Rosin Oil 2nd run.....gal.	.90	.90
Pine Tar—		
Kiln Burnt.....Bbl.	15.50	15.50
Retort.....Bbl.	15.50	15.50

†Savannah, Ga. market.
*Nominal.

Alcohol—		
Formula 6		
Bbls.....gal.	-59½	59½
Drums.....gal.	-52½	52½

Alcohol Market Easier Naval Stores Firm

NEW YORK, Nov. 23.—Following is a review of the markets for oils and supplies used in compounding and refining:

Alcohol.—Wood alcohol showed an easier tendency. Anti-freezing demands fully supplied. Some observers feel these interests have overbought. Prices unchanged. Denatured holds steady. Stocks fair.

Animal Oils.—Trifle firmer. Stearine moving little more freely. Domestic degras steady. Prime lard oil demand gaining. Pure neatsfoot oil slightly higher. Tallow oil moving more freely. Keener interest in oleic acid.

Bleaching Powder.—Steady under fair, routine demand. Stocks moderate. Prices unchanged.

Caustic Soda.—Export inquiry more active. Domestic demand chiefly for 1926 deliveries. Prices unchanged.

Fish Oils.—Easier. Crude menhaden oil offered more freely at 51 cents a gallon, factory. Light pressed menhaden oil is in good demand at 67 to 70 cents a gallon in barrels, New York. Whale oil is marking time.

Linseed Oil.—Steady but quiet. Buying interest waning. Consumers looking for lower prices. Offerings for nearby delivery much larger. Flaxseed fluctuations narrow.

Soda Ash.—Demand more spirited but mainly for future deliveries. Spot stocks fair. Export inquiry better.

Sulfuric Acid.—Reflected strength in sulfur. Demand more spirited. Prices show upward tendency.

Naval Stores.—Price fluctuations narrow. Receipts still small. Distributors are reluctant sellers. Export inquiries for both rosins and turpentine slightly better. Tar moving in good volume while rosin oils are dull.

Sal Soda.—Quiet. Prices steady under routine contract deliveries. Better inquiry for delivery after Jan. 1st.

Gasoline Shipments From California Hold Up

LOS ANGELES, CAL., Nov. 23.—The volume of gasoline shipments from California to the East coast continues to hold up. One of the managers of a big company engaging in this trade estimates that these cargoes will total not less than 200,000 barrels a week throughout the rest of this year.

Seasonal decline in the volume of domestic gasoline consumption has caused more price-cutting in the Los Angeles area. Eight gallons for a dollar can now be bought at a number of Independent service stations throughout Los Angeles city. This gasoline meets the city specifications. Many independent stations are displaying signs reading. "7 gallons for $1.00," "6 gallons for 85c," "7 gallons for 90c," etc., in and about Los Angeles.

Some improvement has been noted in the local demand for fuel oils but no price changes have ocurred and none are looked for. Tank wagon quantities are commanding 75 cents to $1.00 a barrel, at the refinery spot.

Casinghead gasoline is becoming scarce. It is almost impossible to buy any in the spot market. The former spread has definitely tightened ½ cent during the last few days, the market ranging from 13 to 13½ cents.

The spread on export kerosene has also been reduced to from 5 to 5½ cents. The demand for kerosene is not very strong.

Crude and Gasoline Stocks Gain

NEW YORK, Nov. 21.—Crude oil stocks at refineries east of the Rockies during October increased 1,175,000 bbls. over August, according to returns compiled by the American Petroleum Institute from reports made to it by refineries covering approximately 65 per cent of the country's operating capacity. Gasoline stocks east of the Rockies increased 7,812,000 gallons, and west of the Rockies, increased 10,584,000 gallons, making a net increase of 18,396,000 gallons for the refineries reporting.

Kerosene stocks decreased 28,728,000 gallons. Gas and fuel oil stocks decreased 33,852,000 gallons and lubricating oil stocks decreased 840,000 gallons.

Pipe line and tank farm gross domestic crude stocks east of the Rockies decreased 1,979,000 barrels.

Teacher Of Many Oil Men Is Very Ill

TULSA, Nov. 23.—Mrs. Emily J. Wakefield, 81, who is a friend of long standing with many hundreds of the oil fraternity in both eastern and Mid-Continent fields, is very ill at the home of her son L. E. Wakefield, auditor for the Skelly Oil Co. Physicians do not hold out much hope for her recovery due to her advanced age.

Mrs. Wakefield lived at Titusville for 19 years where she directed the teaching of music and French in the schools. She taught many men who are now in important executive positions with oil companies. She has lived also at Lima, Findley and Shreveport. A. J. Wakefield, formerly with the Carter Oil Co. but now in the insurance business, is the second son of Mrs. Wakefield.

OIL STOCKS AND FINANCES

Tide Water Reports Larger Income and Stronger Finances

Staff Special

CLEVELAND, Nov. 21

TIDE WATER OIL CO., and subsidiaries, have continued so far this year the gradual increase in earnings that has marked its operations since it suffered a deficit in 1923. The company's report on earnings for the nine months ended Sept. 30 shows net profit after all charges including federal income taxes, averaging $2.69 on each of the outstanding 2,017,741 no par shares of common stock after deducting dividends on the preferred stock which was issued during last summer. In the first nine months of 1924 Tide Water neted $7.69 on each $100 share of common stock, equivalent to approximately $1.92 a share the way the stock is divided at present.

In the third quarter net profits averaged 78 cents on each no par share as compared with $1.16 in the second quarter of 1925 and 26 cents in the third quarter of 1924 on the equivalent number of shares.

The consolidated income account for the two nine-month periods show a gain of approximately 20 per cent in gross receipts and about 30 per cent in operating income. Net income for the nine months was about 4½ times dividend requirements for a year on the 5 per cent preferred stock.

The balance sheet as of Sept. 30, which shows the new capital structure following the change of the common stock from shares of $100 par to no par shares, the issue of preferred stock, and retirement of $12,000,000 6½ per cent bonds, indicates a great bolstering in the company's finances. Current assets have been increased $16,000,000 to more than $40,000,000 and current liabilities have been reduced almost $2,000,000 to $3,900,000. Net working capital on Sept. 30 was $36,584,093 as against $18,598,971 on Dec. 31, 1924. Book value of the no par common stock on Sept. 30 was $36.88 a share as compared with $141.03 on the $100 common stock on Dec. 31 under the recapitalization plan four shares of no par common were received for each $100 share of the old stock.

The consolidated income accounts for the two nine-month periods compare:

	1925	1924
Gross income	$59,036,559	$49,541,279
Expenses, costs, etc.	48,770,488	41,701,545
Oper. income	$10,266,071	$ 7,839,734
Other income	466,226	535,134
Total income	$10,732,297	$ 8,374,868
Deprec., deplet.	4,303,763	4,030,497
Net income	$ 6,428,534	$ 4,344,371
Minority holders' share of losses	†26,115	†46,698
Tide water holders' share of income	$ 6,454,649	$ 4,391,069
Fed. taxes est.	803,567	543,046
Net profits	$ 5,651,082	$ 3,848,023
Dividends	1,513,287	1,500,100
Surplus adjustments	682,652	118,449
Balance to surplus	$ 3,455,143	$ 2,229,474

†Debit.

The consolidated income accounts for the third quarters of 1925 and 1924 compare:

	1925	1924
Gross income	$21,539,339	$17,933,253
Expenses, costs, etc.	18,333,254	16,272,657
Oper. income	$ 3,206,085	$ 1,660,596
Other income	279,765	244,467
Total income	$ 3,485,850	$ 1,905,063
Deprec., deplet	1,454,372	1,335,736
Net income	$ 2,031,478	$ 569,327
Minority holders' share of losses	†16,293	†26,745
Tide Water holders share of income	$ 2,047,770	$ 596,072
Fed. taxes est.	263,935	71,166
Net profits	$ 1,783,835	$ 524,906
Dividends	504,429	.....
Balance to surplus	$ 1,279,406	$ 524,906

†Debit.

Consolidated balance sheets of Tide Water and subsidiaries as of Sept. 30, 1925, and Dec. 31, 1924, compare:

ASSETS

	1925	1924
Refinery property	$ 19,082,665	$ 18,842,706
Pipe lines	11,074,858	11,071,080
Prod. property	35,915,491	34,527,813
Gasoline property	9,452,447	9,346,080
Rail and lighterage	2,230,991	2,217,099
Marketing property	6,799,329	6,877,695
Timber property	1,931,888	1,575,963
Tank steamers	4,343,457	4,343,457
Total property	$ 90,831,126	$ 88,801,893
Deprec. deplet.	31,561,370	27,723,158
Net property	$ 59,269,756	$ 61,078,735
Other invest.	1,056,893	1,009,753
Inv. in affil. cos.	6,320,829	6,236,595
Invested reserves	1,758,408	347,400
Cash, securities	17,511,681	2,031,907
Notes receiv.	729,956	566,332
Acc'ts receiv.	4,569,066	3,907,232
Crude and products	15,884,490	16,196,056
Materials, supplies	1,631,748	1,639,634
Due from affil. cos.	89,379	154,422
Pfd. stk. subs. due	80,850	.....
Deferred items	2,219,032	1,264,304
Total	$111,122,088	$ 94,432,370

LIABILITIES

6½% bonds	.....	$ 12,000,000
Purchase oblig.	$ 283,774	1,119,196
Trade acc'ts pay.	2,300,833	2,558,473
Other acc'ts pay.	982,305	1,223,451
Due affil. cos.	141,579	213,849
Accrued taxes	204,588	779,643
Stock subs.	339,709	431,371
Deferred purchase oblig.	1,559,575	1,104,963
Contigent reserve	4,917,719	3,914,001
U. S. income tax	803,567	.....
5% pfd. stock	25,059,800	.....
Com. stock	50,443,525	50,004,500
Surplus	23,971,740	20,516,597
Minority interest in subsidiaries	113,376	566,327
Total	$111,122,088	$ 94,432,370

*Subject to contigent liability in guarantee of $2,722,000 Tidal Osage Oil Co. bonds.

Sun Reports Half Year Income

PHILADELPHIA, Nov. 21. — Sun Oil Co. and subsidiaries report for six months ended July 1 net earnings of $2,729,001 after interest and depreciation but before depletion and federal taxes. Consolidated income account follows:

Net operating income	$4,074,536
Interest	395,128
Depreciation	950,407
Net income	$2,729,001
Dividends	303,235
Surplus subject to depletion and U. S. taxes	$2,425,766

Cleveland Stock Market

	Par	Nov. 20 Bid	Asked	Last Sale
Canfield Oil Co.	$100	108½	.....	115
do pfd.	100	.....	100	100
Fred G Clark Co.	10	2¾	2¾	2¾
National Refin. Co.	25	39	42	41
do pfd.	100	.....	135	128
Paragon Refin. Co.	25	8	8¼	8

x-Ex dividend

The Shell-Mex Oil Co. Ltd., Havana, Cuba, recently formed with a capital of $2,000,000 as a subsidiary of the Royal Dutch Shell Oil Co., London, England. has tentative plans for the construction of a refinery and gasoline plant to cost $650,000.

Transactions In Oil Shares on New York Stock Exchange

1924 High	1924 Low	1925 High	1925 Low		Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended Nov. 21 Sales	First	High	Low	Last	Chg'e
48	25	76	48	(sh)	200,000	N.P.	American Republics	.....	.....	700	66	66	65	65	+1½
34⅝	27½	41½	32	$	56,000,000	$25	Associated Oil	50cQ	Oct. 26, 25	8,300	40	40½	38¾	39	—1
140⅛	78½	117½	95½		50,000,000	100	Atlantic Refining	.....	June 16, 24	5,400	109⅞	109⅞	104½	108½	—1½
118	108	117¾	113½		20,000,000	100	do pfd	$1¾Q	Nov. 2, 25	200	117	117	117	117	— ¾
23½	14	30	18¾		18,428,350	25	Barnsdall Corp. A	.....	Apr. 30, 21	15,700	25⅛	25⅜	24⅛	24¾	— ½
17½	10	24¼	16		3,713,275	25	do B	.....	Apr. 30, 21	2,500	24	24	23¼	23¼	—1
4¼	1	2⅜	⅜	(sh)	150,000	N.P.	Caddo Central O. & R	.....	.....	1,400	½	⅝	½	⅝	— ⅛
29¼	19½	32⅜	23⅞	$	30,549,925	$25	California Petroleum	50cQ	Dec. 1, 25	80,500	x32⅝	x32⅝	x31	x31¼	— ⅝
63¾	31⅜	62¾	42½		19,832,300	100	General Asphalt Co	.....	.....	16,500	60⅜	60⅜	55⅜	56	—3⅝
100	71½	101⅜	86½		7,416,000	100	do pfd	$1½Q	Dec. 1, 25	900	98¾	99	98¾	99	— ⅞
45	38¾	59	42		29,194,650	25	General Petroleum	50cQ	Sept. 15, 25	23,900	50⅞	50⅞	47½	48¼	—2¾
82½	61	85	59		25,000,000	100	Houston Oil Co	.....	.....	5,900	73	73⅞	70¼	70½	—2
16¼	5¾	40½	13½	(sh)	500,000	N.P.	Independent Oil & Gas	25cQ	Oct. 5, 25	38,600	33½	33⅜	30⅝	31	—1¾
7⅛	3¾	10⅜	5½	$	3,256,590	$10	Indian Refining Co	.....	Dec. 15, 20	3,600	9⅜	9⅜	9	9	— ½
75	60	97	77		2,296,400	100	do pfd	.....	Dec. 15, 21	200	96	97	96	97	+1
1	¼	1½	¼		1,678,760	10	Kansas & Gulf Corp	.....	.....	300	½	½	½	½	0
.....	.....	23¾	15⅝	(sh)	1,078,166	N.P.	Louisiana Oil Refining	.....	.....	20,100	18⅜	18⅜	16⅝	17	—1
37½	24⅝	35½	20⅜	(sh)	330,000	N.P.	Maracaibo Oil	.....	.....	8,000	26	26¾	24¼	25	— ½
42	29	58¾	32⅝	(sh)	1,885,343	N.P.	Marland Oil Co	75cQ	Sept. 30, 25	149,200	58	58½	55	56⅜	—1¾
190	190	250	225	$	45,942,800	$100	Mexican Petroleum Co	$3Q	Oct. 20, 25	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....		12,000,000	$100	do pfd	$2Q	Oct. 20, 25	.....	.....	.....	.....	.....	.....
25¾	14⅛	22¾	10¾	(sh)	945,989	N.P.	Mexican Seaboard Oil	.....	Nov. 15, 24	9,000	11⅞	12⅜	11⅝	11⅞	+ ⅛
40¼	22⅝	38	26	(sh)	1,357,800	N.P.	Mid-Continent Petroleum (Cosden)	.....	Aug. 1, 23	69,800	37¾	37¾	35⅞	36⅞	— ¼
95	80	94½	83	$	6,718,000	$100	do pfd	$1¾Q	Dec. 1, 25	.....	.....	.....	.....	.....	.....
6⅞	1	3¼	⅝	$	26,013,700	10	Middle States Oil Corp	.....	July 1, 23	7,100	1¼	1¼	1¼	1¼	0
58¼	45	65¼	51⅝	(sh)	3,500,000	N.P.	Pacific Oil Co	$1.50S.A.	July 20, 25	75,400	60⅝	61½	57¾	59	—1½
65	44¼	83⅞	59½	$	48,307,400	$50	Pan American P. & T	$1.50Q	Oct. 20, 25	9,800	73¾	73¾	71	71¾	—1¾
64⅝	41¾	84½	60⅜		90,476,200	50	do Class B	$1.50Q	Oct. 20, 25	88,800	74½	75	71⅝	73⅜	—1¼
.....	.....	44⅞	41⅜	(sh)	400,000	N.P.	Pan American Western B	.....	.....	12,500	43¾	43¾	41⅜	42¾	— ¼
4⅛	1⅜	5⅜	2¼	(sh)	198,770	N.P.	Panhandle P. & R	.....	.....	6,400	4	4⅛	3¼	3¾	— ¼
42½	29	60¼	37	$	2,935,200	$100	do pfd	.....	July 2, 23	300	40	41	39½	39½	— ½
42½	28½	47⅛	36¼	(sh)	1,925,152	N.P.	Phillips Petroleum	50cQ	Oct 1, 25	554,000	45½	45¾	43⅛	43½	—2
4½	1½	3⅜	1¼	$	29,622,925	$25	Pierce Oil Corp	.....	.....	7,500	1⅝	1¾	1½	1⅝	0
36	20	40	22		15,000,000	100	do pfd	.....	Feb. 1, 22	100	24¾	24¾	24¾	24¾	— ¼
5¾	4⅜	8¼	4¾	(sh)	2,500,000	N.P.	Pierce Petroleum	.....	.....	3,800	5½	5¼	5	5⅛	0
43½	22¾	32⅝	13½	$	11,467,850	50	Producers & Refiners	.....	Sept. 15, 23	1,600	16¾	16	14⅝	14⅞	—2⅛
47½	42	47⅝	27		2,845,350	50	do pfd	.....	May 1, 25	100	31½	31½	31½	31½	+ ½
30¼	20	33¾	25⅛		75,959,250	25	Pure Oil Co	37½cQ	Dec. 1, 25	18,300	28½	28⅝	27	27	—1¾
105¼	92	108½	103		13,000,000	100	do 8% pfd	$2Q	Oct. 1, 25	100	107⅜	107½	107⅜	107½	+ ⅛
59½	40⅜	57⅜	48¼	(sh)	820,436	13.40	Royal Dutch, N. Y. shares	$1.73½	Aug. 1, 25	6,300	54	54	53	53½	— ¾
42	33	45¾	39½	(sh)	105,575	£2	Shell Transport & T	$1.21	July 25, 25	11,800	44¾	45½	44⅝	44¾	+ ¼
22½	15¾	28⅜	21⅛	(sh)	10,000,000	N.P.	Shell Union Oil Corp	35cQ	Sept. 30, 25	33,600	25⅛	25⅜	24¼	24½	— ¾
99½	91½	106½	99½	$	20,000,000	$100	do pfd	$1½Q	Nov. 16, 25	200	103	104½	103	104½	—1
24	10¾	26¾	18⅝		7,207,090	10	Simms Petroleum Co	50S.A.	July 1, 25	20,500	23⅞	24	22⅜	23½	— ⅜
27⅝	15	24⅞	17	(sh)	4,484,450	N.P.	Sinclair Consolidated	.....	May 31, 24	50,500	21⅞	22	20½	20⅜	—1⅜
90	75	94⅝	78¾	$	18,190,200	$100	do pfd	$2Q	Nov. 16, 25	400	90½	90½	90	90	—1½
29	17⅛	32½	21¾		20,986,500	25	Skelly Oil Co	.....	.....	70,700	31½	31¾	29¾	30⅞	— ⅝
68⅛	55½	67¼	51½		236,869,225	25	S. O. California	50cQ	Sept. 15, 25	12,500	57⅞	57⅞	55½	55½	—2⅛
42¼	33	47½	38⅜		511,631,025	25	S. O. New Jersey	25cQ	Sept. 15, 25	136,700	45¾	46¼	42⅜	43½	—1¾
119⅛	115¾	119	116¼		199,972,900	100	do pfd	$1¾Q	Sept. 15, 25	3,200	118	118	117½	118	0
8⅛	2⅜	6⅛	2¾	(sh)	1,121,368	N.P.	Superior Oil Corp	.....	Dec. 20, 20	3,700	2⅞	3	2⅞	2⅞	0
45⅜	37¾	53⅜	42¾	$	164,450,000	$25	The Texas Co	75cQ	Sept. 30, 25	116,000	53¼	54⅜	51⅜	51¾	—1¼
15¼	8	23⅜	10⅞		8,380,340	10	Texas Pacific Coal & Oil	.....	June 30, 23	86,800	15⅜	17	15	15⅜	+ ½
.....	.....	36¼	30½	(sh)	2,017,719	N.P.	Tide Water Oil Co	25cQ	Sept. 30, 25	5,000	35½	35½	33½	34⅝	— ⅝
.....	.....	101	99¾	$	25,059,000	$100	do 5% pfd	$1.25Q	Nov. 16, 25	1,500	100	100	99¾	100	0
6¼	3¾	5⅞	3½	(sh)	3,742,029	N.P.	Transcontinental Oil Co	.....	.....	162,200	4¾	5¼	3⅞	4⅞	+ ½
39	35	43⅜	33	$	40,480,800	$25	Union Oil of California	45cQ	Nov. 10, 25	8,300	36⅞	36⅞	34¾	34¾	—1¾
152⅛	94	134	118		18,262,300	100	Union Tank Car Co	$1¼Q	Dec. 1, 25	2,400	129¾	132	128	129	—1½
116¾	106¼	117⅛	113¼		12,000,000	100	do pfd	$1¾Q	Dec. 1, 25	100	114⅞	114⅞	114⅞	114⅞	+ ⅛
29⅜	23⅛	31¾	25½	(sh)	490,000	N.P.	White Eagle Oil & Ref	50cQ	Oct. 20, 25	2,600	28	28⅛	27	27	—1⅛

*New High †New Low xEx-dividend Total Sales 1,981,500

Standard Oil Stock Traded In New York Curb Market

1924 High	1924 Low	1925 High	1925 Low		Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended Nov. 20 Sales	First	High	Low	Last	Chg'e
18¾	14⅜	26⅛	18	£	3,000,000	£1	Anglo American	60¾cS.A.	May25, 25	400	23⅞	24	17¾	17¾	0
4⅞	2	4	2	(sh)	500,000	N.P.	Atlantic Lobos	.....	.....	800	2	2⅛	2	2	— ¼
16	5	12⅜	3	$	10,000,000	$10	do pfd	.....	.....	500	5	5	4½	4½	— ½
265	155	240½	205		1,000,000	$100	Borne-Scrymser	‡84S.A.	Oct. 15, 25	.....	.....	.....	.....	.....	.....
85½	51	72	54		10,000,000	50	Buckeye Pipe Line	$1Q	Sept. 15, 25	430	57	58	55	55	—1
52½	47⅜	74⅜	48½		3,000,000	25	Chesebrough Mfg. Co	62½cQ	Sept. 30, 25	1,700	74	74⅜	72	72	0
115	112	115	110		1,000,000	100	do pfd	$1¾Q	Sept. 30, 25	.....	.....	.....	.....	.....	.....
.....	.....	31⅛	21⅞		34,914,280	$10	Continental Oil (Maine)	25cQ	Sept. 15 25	36,100	24½	24¾	23⅝	24	— ¼
20	11¾	17½	10⅝		1,500,000	25	Crescent Pipe Line	.....	Sept. 15, 23	.....	.....	.....	.....	.....	.....
149	110¾	156	132		3,000,000	100	Cumberland Pipe Line	$3Q	Sept. 15, 25	.....	.....	.....	.....	.....	.....
105	74	96	66		5,000,000	100	Eureka Pipe Line	$1Q	Nov. 2, 25	40	68¼	68¼	67½	67½	0
69¾	52	65	34		16,000,000	100	Galena Signal Oil	.....	June 30, 25	585	40½	40½	39	39	—1
113	100½	105	100		4,000,000	100	do new pfd	$2Q	Sept. 30, 25	60	101½	101½	101	101½	0
116	110	114	103		2,000,000	100	do old pfd	$2Q	Sept. 30, 25	.....	.....	.....	.....	.....	.....
43¾	34½	76⅞	42½		43,750,000	25	Humble Oil & Ref	30cQ	Oct. 1, 25	59,320	75½	76⅞	71¾	74⅜	— ⅛
161	120	154½	127		20,000,000	100	Illinois Pipe Line	$6S.A.	June 30, 25	70	146	146	141	141	—4
.....	.....	34¾	27¼	(sh)	6,491,852	N.P.	Imperial New	25cQ	Dec. 1, 25	13,600	33	33⅝	32	33	0
100	66	84	60	$	5,000,000	50	Indiana Pipe Line	$1Q	Nov. 14, 25	170	64	65	62½	62½	—1½
24¾	16¾	29	22¾	(sh)	7,118,138	N.P.	International Petroleum	25c	Sept. 30, 25	65,600	28⅜	29	27¾	28⅞	+ ⅛
162	122	186	130½	$	188,247,100	100	Magnolia Petroleum	1%stk.	Oct. 5, 25	4,810	185	186	178¾	180⅛	—4⅞
25⅞	20⅝	25½	18¼		6,362,500	12½	National Transit	25cQ	Sept. 15, 25	2,400	20½	20½	18¼	19	—1½
97	54½	79	50		5,000,000	100	New York Transit	75cQ	Oct. 15, 25	40	53½	54	53½	53½	— ½
107½	72	88	78		4,000,000	100	Northern Pipe Line	$3S.A.	July 1, 25	140	80	80	79	80	0
79½	55	75	60¼		60,000,000	25	Ohio Oil Co	50cQ	Sept. 30, 25	2,600	66¾	67	65½	66	— ¾
43	27	44½	20		10,000,000	25	Penn. Mex. Fuel	50c	May 21, 25	1,400	22	29	22	23	+1½
54¾	49½	65¼	45⅞		60,000,000	25	Prairie O. & G	.....	July 31, 25	25,900	53½	55½	52	53¼	+ ⅜
111	100	128	106		81,000,000	100	Prairie Pipe Line	$2Q	Oct. 31, 25	2,090	127¼	128	124	126¾	0
230	175	259	200		4,000,000	100	Solar Refining Co	$5S.A.	June 20, 25	90	229	229	220	220	—5
100	80½	103	29		10,000,000	100	Southern Pipe Line Co	$1Q	Dec. 1, 25	380	70	70	69	70	—2
171	117	197	139		20,000,000	100	South Penn Oil Co	.....	Sept. 30, 22	1,300	164	174½	164	173	+9
89	68	84	53		3,500,000	100	Southwest Pa. Pipe Lines	$1Q	Oct. 1, 25	.....	.....	.....	.....	.....	.....
68⅜	54¼	70	59½		223,756,258	25	S. O. Indiana	62½cQ	Sept. 15, 25	48,800	66¼	66¾	63¼	65¼	— ¾
50¼	32½	46	30⅜		8,000,000	25	S. O. Kansas	.....	June 16, 24	6,700	33¼	35¼	32⅜	32⅜	—1⅛
121¾	101	137	114¾		16,864,434	25	S. O. Kentucky	$1Q	Sept. 30, 25	3,400	134½	136	131½	134¼	+ ⅜
262	198	270	231		3,000,000	100	S. O. Nebraska	$5S.A.	June 20, 25	150	258	262½	242	242	—3
48	37¾	48¾	40		227,535,300	25	S. O. New York	35cQ	Sept. 15, 25	28,200	46⅞	46⅞	44⅝	44¾	—1⅝
377½	275	369	338		14,000,000	100	S. O. Ohio	$2½Q	Oct. 1, 25	120	365	369	365	369	+2
336	115	123	116		7,000,000	100	do pfd	$1¾Q	Dec. 1, 25	120	119	120	119	120	+3
81	20	27	12½		1,722,931	25	Swan-Finch Oil Corp	.....	Nov. 1, 19	240	18	19⅛	18	19⅛	+2⅛
83½	56½	105½	80⅛		61,919,950	25	Vacuum Oil Co	‡50cQ	Sept. 19, 25	12,500	103½	103⅝	99⅞	100¾	—2½
30	25	35	30		100,000	10	Washington Oil Co	.....	Jan. 31, 22	.....	.....	.....	.....	.....	.....

Borne Scrymser $2 extra April 15 $4 extra Oct. 15 ‡Vacuum 50c extra Mar. 20, June 20, Sept. 19

Edward Valves for Oil Refineries

Forged Steel for Pressure Stills

Globes and angles, ¼" to 2", built to withstand 500 lbs. working pressure 1100 F. intermittent temperature. Forged steel body, bonnet and union ring, deep stuffing box and a sturdy gland and packing nut. Outside screw and yoke. No bronze parts. Trimmings of steel or monel as required. Straight-away flow in globe type. Full area throughout all passages. Low price due to large production; durability and dependability due to quality materials and expert engineering. Write for full information.

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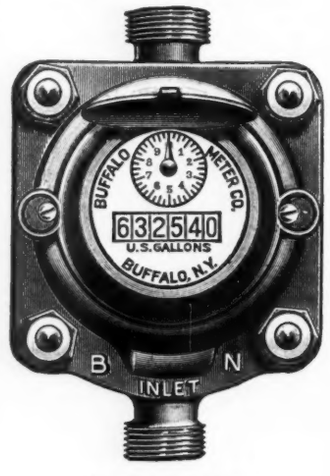
METERS



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"For any oil that flows thru a pipe."

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BUFFALO METER CO.
Est. 1892
2889 Main St. Buffalo, N. Y.

New York Bonds

Week Ended Nov. 21

	High	Low	Last	Ch'ge
Amer. Rep. Cor. deb 6s	100	99¾	99¾	+2
Associated Oil gold 6s	103	102	102½	— ½
Atlantic Refg deb 5s	99⅞	99½	99⅞	+ ⅜
Barnsdall Corp. 8s	105½	105⅜	105⅜	— ⅛
Calif. Petrol. sf 6½s	104	103½	104	0
Empire Gas & F 7½s	103¾	103	103	— ¾
Humble O & Refg 5½s	101⅝	101¼	101¼	+ ¼
Mid-Cont Pet 6½s	101⅞	101¼	101⅝	0
Pan-Am P & T 7s	105⅞	105⅛	105⅞	+ ⅜
Pan-Am P & T 6s	109½	107¾	109⅜	— ⅛
Pierce Oil Deb 8s	104⅜	104	104	— ¼
Producers & Refnrs 8s	110	110	110	+ ¼
Sinclair con oil col 7s	99¾	93¾	94¼	— ⅜
Sinclair con oil con 6½s	87⅜	86⅞	86⅞	— ⅜
Sinclair con oil 6s	108½	105⅜	105¾	—2
Sinclair Crude Oil 6s	100⅞	100⅜	100⅝	+ ⅜
Sinclair Pipe Line sf 5s	86¾	85¾	86¾	+1¼
Skelly Oil 6½s	127¾	120	123½	—2½
Superior Oil 7s	95½	95½	95½	—1½
Tide Water Oil 6½s	.....	.....	.....	.....
Union Oil of Calif 6s-A	103⅞	103	103¾	+ ½
Union Oil of Calif 5s-B	100⅝	100⅛	100⅞	+ ⅜
Union Oil of Calif 5s-C	95¼	95¼	95¼	0
Union Tank Car 7s	.....	.....	.....	.....

New York Curb Bonds

Week Ended Nov. 21

	High	Low	Last	Ch'ge
Atlantic Gulf w.i. 6s	74	71	74	— ¾
Cities Service 6s	90⅝	90½	90½	0
Cities Serv 7s "B"	178	178	178	0
Cities Serv. 7s "C"	126½	126	126½	+ ½
Cities Serv. 7s "D"	101½	101½	101½	0
General Pet 6s	101¾	101½	101¾	+ ⅛
General Pet. 5s	95	94¾	94¾	— ⅛
Gulf Oil 5s	100	99⅝	99¾	+ ⅛
Gulf Oil 5½s '26	100¾	100	100	+ ⅜
Gulf Oil 5½s '27	101¼	101¼	101¼	—1¼
Phillips Pet 7½s w.w.	103¾	103¾	103¾	— ¼
Pure Oil 6½s	102⅞	102½	102½	0
S O N Y 6½s	107	106¾	106¾	— ¼
Sun Oil 5½s	97¾	97¾	97¾	— ¼
Tidal Osage 7s	103½	103	103½	— ½
Trans Cont Oil 7s	97⅜	95½	97⅜	+ ⅜
Vacuum Oil 7s	105	104¾	104¾	— ¼
Valvoline 7s	105	105	105	0

New York Curb Market

1924 High	1924 Low	1925 High	1925 Low	Par Value	Stocks	Transactions week ended Nov. 20 Sales	First	High	Low	Last	Ch'ge
.....	.....	11¼	2½	....	Amer. Maracaibo	7,200	7⅜	7⅜	6¾	7	— ⅜
7	4	8¾	5	$10	Arkansas Nat. Gas.	4,300	6¾	6⅞	6⅛	6⅝	+ ⅜
36⅝	32	45¼	38	$5	British-American	.....	.....	.....	.....	.....	.....
6¾	2¾	7½	2¾	25c	Carib. Syndicate	13,400	6¾	6¾	6½	6½	— ¼
.....	.....	43	35	$20	Cities Service	13,500	39	39	38½	38¾	— ¼
82½	67¾	84¼	80¼	100	do pfd	2,600	83⅞	84¼	83⅞	84¼	+ ¼
7¾	6⅝	8	7¾	10	do pfd. B	400	7½	7¾	7½	7¾	0
19	13¼	21⅜	17⅜	10	do bankers' sh	300	19¼	19¾	19¼	19¾	— ⅛
1¾	.25	2¾	.60	N.P.	Colombia Syndicate	81,500	2⅜	2½	1⅞	2	— ⅛
10⅝	2¼	14⅛	8¼	N.P.	Creole Syndicate	11,100	11¼	11¼	10¾	11⅛	+ ⅜
.....	.....	12¼	6	N.P.	Crown Central	4,300	7¼	7½	6⅞	6⅞	— ⅛
8	1½	7	3	N.P.	Derby Oil & Ref	100	3	3	3	3	—1⅛
84¼	17½	27	15	N.P.	do pfd	400	16½	16½	†15	15	—2
.....	.....	4	1¾	N.P.	Gibson Oil	28,200	3⅛	* 4	3⅛	4	+ ¾
5¾	1¾	3¾	1⅜	N.P.	Gilliland v.t.e	600	1⅞	2	† 1⅜	1⅜	0
67¾	56	85½	63½	$25	Gulf Oil Corp	24,500	84¼	*85½	81⅛	83	—1⅝
7	1⅜	5⅞	2¼	N.P.	Kirby Petroleum	1,600	3⅞	3⅞	3⅜	3½	— ⅛
6¾	2⅞	7¾	4⅛	N.P.	Lago Petroleum	111,050	7⅜	* 7¾	7	7⅛	— ½
.....	.....	25½	18	N.P.	Lion Oil Refining	5,100	25¼	25½	24½	25⅜	— ⅛
4⅞	4	4¼	1¾	N.P.	Marland of Mexico	.....	.....	.....	.....	.....	.....
1¾	.50	5¾	.56	$10	Mexican-Panuco	10,100	5⅛	5¼	4⅜	4½	— ½
1⅝	.97	2	1	1	Mountain & Gulf	800	1½	1⅝	1½	1½	— ⅛
20¾	16	24⅞	18¾	10	Mountain Prod	18,200	24½	*24⅞	23⅜	24½	0
6¼	3½	6¼	3⅝	5	New Bradford Oil	7,500	6	6⅜	5⅞	6	0
44	17	8¾	5	10	New England Fuel	.....	.....	.....	.....	.....	.....
.....	.....	19¾	6¼	1	New Mex. & Ariz	8,000	16⅛	16⅜	14¼	15	—1
11	8⅛	12½	8¼	25	New York Oil	700	10⅛	11	10⅛	11	+1⅝
.....	.....	87	23¾	N.P.	Pan-Amer. Western	.....	.....	.....	.....	.....	.....
6	.70	2	.90	N.P.	Peer Oil Corp	8,600	1⅞	2	1⅞	2	+ ⅛
18¼	12¼	28¼	16	$10	Pennok Oil	3,000	25½	25½	22⅝	22⅝	—3
57¾	5¾	44½	16	25	Red Bank Oil	1,500	21	21⅛	20	20	—1⅝
.....	.....	33½	9	N.P.	Reiter-Foster	9,500	22¾	23¼	19	20⅜	—2
5½	3	9¼	3½	N.P.	Ryan Consolidated	2,500	5	5¼	4½	5¼	+ ½
10¼	6	9¾	6¼	$10	Salt Creek Cons	16,300	9⅜	* 9¾	8¾	8⅞	— ⅜
27½	19¼	31¾	24	10	Salt Creek Prod	54,700	30¼	*31⅜	29⅞	31¼	+1
3¾	1¾	3¾	1¼	5	Savoy Oil	.....	.....	.....	.....	.....	.....
.....	.....	46½	33¾	N.P.	Sun Oil	.....	.....	.....	.....	.....	.....
16¼	6¼	13¾	9	10	Tidal Osage	400	10⅛	10⅛	10	10	+ ½
4¼	2¼	4⅞	1¾	5	Venezuelan Pet	3,000	3¾	3¾	3⅜	3½	— ⅛
.....	.....	31¾	22¾	N.P.	Wilcox O. & G. new	1,100	27½	27½	26¾	27	— ¾
13⅞	4¾	7	5¾	N.P.	Woodley Petroleum	2,700	5⅞	6⅜	5⅝	6	+ ¾

Pittsburgh Stock Exchange

1924 High	1924 Low	1925 High	1925 Low	Par Value	Stocks	Transactions Week Ended Nov. 20 Sales	First	High	Low	Last	Ch'ge
7	4	8¼	5¼	$10	Arkansas Nat. Gas.	20,845	6¾	7	5¾	6¾	+ ½
40½	35¾	73¼	69¼	N.P.	Columbia Gas	.....	.....	.....	.....	.....	.....
.....	.....	18	14¾	$10	Devonian Oil	140	16⅝	16⅝	16	16	—1
.....	.....	112¾	105¾	$100	Duquesne Lt.7s pfd	225	110½	110½	110	110	— ½
80	80	110½	90	25	Fayette County Gas	.....	.....	.....	.....	.....	.....
33½	26¾	45½	32¼	25	Lone Star Gas	1,215	44¾	44¾	43⅞	44	—1
33¼	28½	37¼	31	25	Ohio Fuel Corp	5,734	34⅝	34⅝	34¼	34½	— ⅛
16½	11¾	16¾	12⅝	1	Ohio Fuel Oil	100	15	15	15	15	0
28½	22¾	32¼	26	25	Oklahoma Nat. Gas	1,350	31½	31½	31	31¼	— ⅛
9¾	6	8¾	5	5	Pittsburgh O. & G	625	6	6	6	6	+ ⅜
10¾	6	9¾	6¼	10	Salt Creek Cons	3,773	9½	*9⅝	9	9	0
16½	8	13¾	8¼	10	Tidal Osage	59	11	11	11	11	0

Pittsburgh Curb Market

1924 High	1924 Low	1925 High	1925 Low	Par Value	Stocks	Transactions Week Ended Nov. 20 Sales	First	High	Low	Last	Ch'ge
.....	.....	18¾	18½	....	Central Ky. Gas	.....	.....	.....	.....	.....	.....
1	.20	2¾	.60	$5	Colombia Synd	200	2½	2½	2½	2½	+ ⅜
.....	.....	15	13	N.P.	Devonian Oil	.....	.....	.....	.....	.....	.....
.70	.25	.60	.15	5	Duquesne Oil	.....	.....	.....	.....	.....	.....
9½	5½	9	5¼	10	Forest Oil	.....	.....	.....	.....	.....	.....
66¾	57	84	64	25	Gulf Oil Corp	2,100	82	*84	82	84	+2½
23¾	21	.....	.....	N.P.	International Pet	.....	.....	.....	.....	.....	.....
.....	.....	12½	3¾	N.P.	Leonard Oil & Dvlp	3,200	9⅞	9⅞	8¼	8¾	—1¼
6	5	.....	.....	$10	Marshall Oil	.....	.....	.....	.....	.....	.....
.77	.35	.47	.26	10	Omar O. & G	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	....	Plymouth Oil	50	25	25	25	25	0
8	3½	7	3	5	States Oil	.....	.....	.....	.....	.....	.....
.....	.....	4	1 11/16	$1	Texon Oil & Land	12,525	3½	3¾	3⅛	3¼	+ ⅛
14	10	11	9	10	Tidal Osage	10	9⅞	9⅞	9⅞	9⅞	— ⅛

*New High †New Low xEx-Dividend

General Refunds Debts Raises Dividend

CLEVELAND, Nov. 23.—Directors of the General Petroleum Corp., who met Nov. 12 in San Francisco, increased the company's dividend rate from $2 to $3 a year on the $25 common stock and readjusted its funded obligations. Approval was given the plan to create a bonded indebtedness of $35,000,000 of 5 per cent first mortgage sinking fund gold bonds of which $18,000,000 will be issued presently.

Proceeds of the issue will be used to retire the outstanding 10-year 7 per cent sinking fund gold bonds and the 6 per cent convertible gold notes and to provide additional working capital for increased storage and plant facilities. The remaining $17,000,000 will be issued from time to time as the company's growth requires.

In explaining the company's position and the increase in dividends, President John Barneson said:

"For several years the General Petroleum Corp. has been earning from 2½ to 3½ times the amount paid out to its stockholders in dividends, the undistributed earnings being invested in oil lands, storage and equipment. Thus in the fiscal years 1922-23, 1923-24, 1924-25, the earnings available for common dividends were $19,988,861, while only $6,254,859 was distributed through these three fiscal years. I have always felt that this was not altogether fair to the stockholders and could only be justified by our belief that it was a temporary situation to be terminated at latest during this summer. Recent events in the oil world indicate that the situation will be prolonged for another year.

"The directors, therefore, no longer feel justified in continuing the policy of reinvesting so large a part of the earnings of the company which seem properly and conservatively applicable to dividends. The changes which have taken place enable the board of directors to free a large part of the earnings from the necessities of reinvestment for capital purposes and make the dividends bear a just relation to the company's net earnings."

SARANAC LAKE, N. Y.—A continuous stream of golden color oil running from the easy-pour can was an attraction at the booth of the Champlain Valley Oil Co., Inc., during the recent auto show. The company was displaying Texaco products, according to T. L. Cochrane, manager of the Saranac Lake branch of the company.

AUGUSTA, GA.—Phoenix Oil Co. has just completed and moved into its new warehouse, and with this additional space and 20,000 gallons additional storage, is prepared to give better service, according to W. L. McCrary, president.

The Oil Industry Exchange

Positions Wanted

Man thoroughly experienced in all branches of oil refining desires new connection. Box 471.

Refinery Superintendent. Sixteen years experience. Employed, desires new connection. Thoroughly acquainted with modern equipment. Can get favorable results. A-1 references. Box 466.

Salesman with eight years traveling experience, selling refined oil, Gasoline, Lubricating Oils and greases to Distributing and Jobbing trade, also managing and operating Bulk Station and Service Stations. Now with reputable company but desires change where future offers more. Sales record high. Bank and trade references. Eastern or Canadian Territory preferred. Address Box 472, care, National Petroleum News.

Situations Open

Opportunity is open to make big money selling metal buildings. (See our other advertisement in this issue.) Metal Shelter Co., Wabasha and Water Sts., St. Paul.

Lubricating oil and grease salesman wanted
with confidence in his ability to sell to smaller merchants, farmers and individuals. Good opening for right party with established jobbers in middle west. Must have clean record and good references. State full particulars. **Box 476.**

Salesman Wanted

Experienced, with knowledge of lubricating oils to jobbing trade. Good prospects for future. Acquaintance with Illinois, Wisconsin, Indiana, Iowa or Michigan jobbers desirable.

State age, experience and references. Replies strictly confidential.

Box 461

Are You an Experienced Oil Man?

If you are, you are bound to be interested in the position which we are now about to fill.

We are a large oil company, operating over an extensive territory, and are now about to enter the Philadelphia field, selling petroleum and all its products, including gasoline.

We want a Manager for our Philadelphia business, one familiar with the oil industry generally, and with the Philadelphia market specifically, in similar capacity. Salary is in keeping with the importance of this position and only men of large Philadelphia oil company experience need apply.

Box 467

Situations Open

Graduate Civil Mechanical Engineer wanted. Oil refining. Drawings and estimates under supervision. Box 477.

Wanted to Buy

Two used Wax Filter Presses wanted, with from 300 to 500 plates. Address full information and prices to Box 475.

For Sale

Two Heavy Vogt Machine Co.'s 20-ton Exhaust Steam Absorption Refrigerating Systems, for sale, complete. In first-class condition. Box 272.

Elliptical Truck Tank For Sale

1290-gallon capacity, four compartments and side tanks for lubricating oils. At half price.

Write Twin Ports Oil Co., Duluth, Minn.

Gasoline Pumps For Sale

Twenty No. 97 Bowser Sentry pumps for sale. All practically brand new.

Box 465

Business Opportunities

WHERE JOBBER AND REFINER MEET

My office is nothing more than a clearing house for Seller and Buyer of

Petroleum Products

DALE W. MOORE

532 - 533 Mayo Bldg., Tulsa, Okla.
Telephones: 3-4177 and 3-4178.
L. D. 136

Miscellaneous

WHAT IT COSTS

For "Position Wanted" advertisements—5 cents per word. Minimum cost $1.00. All other classified advertising—10 cents per word. Minimum cost $3.00. Advertisements set in special type or with border—$4.00 per column inch. Copy must reach us not later than Friday preceding date of issue. All advertisements carried on this page are payable in advance.

ADVERTISERS INDEX

PAGE NUMBERS OPPOSITE ADVERTISEMENTS APPEARING IN THIS ISSUE ONLY

Adamson Mfg. Co.
Allison Coupon Co.
Aluminum Paint Co.
American Bridge Co. 82
American Can Co.
American Oil Corp.
American Oil Pump & Tank Co. 138–139
American Radiator Co. 75
American Schaeffer & Budenberg Corp.
American Spiral Pipe Works.
American Steel Package Co. 142
American Telephone and Telegraph Co.
Anderson-Prichard Oil Co.
Arcus Ticket Co. 106
Armstrong Cork & Insulation Co.
Artcraft Sign Co. 104
Arza Oil Pump Co. 109
Atlas Petroleum Co.
Attwood Brass Works, Inc.
Autocar Co.
Au-to Compressor Co
Automobile Rotary Lift Co. 2

Barber Co. W. H.
Barnickel & Co., Wm. S. 84
Barnsdall Refg. Co. 12
Battenfeld Grease & Oil Co. 14
Beacon Equipment Co.
Bennett Pumps Corp. 105
Berry's Sons Co., James B.
Bessemer Gas Engine Co. 79
Bethlehem Shipbuilding Corp.
Bethlehem Steel Co.
Bettcher Stamping & Mfg. Co.
Biggs Boiler Works Co. 145
Blackmer Rotary Pump Co. 128–129
Blaw-Knox Co.
Bolene Refg. Co.
Bollwerk & Brother, H.
Bowser & Co., Inc., S. F. 16–17
Brookins Mfg. Co. 101
Brown Instrument Co. 103
Brown Petroleum Co., R. J.
Brown Sheet Iron & Steel Co. 156
Brunner Mfg. Co.
Buckeye Iron & Brass Works.
Budd Wheel Co.
Buffalo Meter Co. 166
Butler Mfg. Co. 126

C-V Equipment Co.
Calorizing Co.
Cameron, A. S. Steam Pump Works.
(Ingersoll-Rand Company).
Canfield Oil Co., Cleveland. 60–61
Carbide & Carbon Chemicals Corp.
Caward-Dart Co. 104
Champion Pneumatic Mach. Co. 21
Champion Tank & Mfg. Co. 148
Champlin Refining Co.
Chapman Valve Mfg. Co.
Chestnut & Smith Corp. 108
Chicago Bridge & Iron Works.
Chicago Tubing & Braiding Co. 134
Christian-Able Co., Inc. 156
Cincinnati Ball Crank Co.
Clark Bros.
Clark Co., Fred G.
Classified Advertising Section. 167
Cleveland Brass Mfg. Co. 3
Cleveland Steel Barrel Co. 4
Columbia Oil Co.
Columbian Steel Tank Co.
Conewango Ref. Co. 24
Continental Motors Corp.
Continental Ref. Co.
Cook Paint & Varnish Co.
Correct Measure Co. 115
Craig & Co., Ltd., A. F. 72
Crane Co.
Crown Central Petroleum Corp.
Curtis Pneumatic Machinery Co.
Cushing Refg. & Gasoline Co.

Davis Welding & Mfg. Co.
Dawes Electric Sign & Mfg. Co.
Dayton Pump & Mfg. Co.
Deepwater Oil Refineries. 102
Dempster Mill Mfg. Co. 98
Des Moines Foundry & Machine Co.
Detroit Graphite Co.
Dixie Mfg. Co.
Doelker Co., I. R.
Donoghue, David.
Doty Pump Co., J. G. 68
Draper Mfg. Co. Inside Back Cover
Du Pont Everdur Co.

Economy Engineering Co.
Edwards Mfg. Co. 116
Edward Valve & Mfg. Co. 166
Ehrlich Safe & Lock Co. 121
Elk Refining Co. 117
Emerson-Scheuring Tank Co. 109
Empire Oil & Grease Co.
Empire Refineries, Inc.

Fain, William H.
Farrell Mfg. Co.
Ferer & Sons, Aaron.
Fiske Bros. Refg. Co. 106
Fleckenstein Visible Gasometer Co. of Michigan 10
Flexlume Corp. 5
Foamite-Childs Corp.
Ford Motor Co. 15
Franklin Valveless Engine Co.
Frontier Mfg. Co. 100
Fuller & Sons Mfg. Co. 124

Galena Signal Oil Co.
General American Tank Car Corp.
General Motors Truck Co.
Geuder, Paeschke & Frey Co.
Gilbert & Barker Mfg. Co.
Glidden Co.
Globe Mfg. Co.
Globe Oil & Refg. Co.
Gomory, W. L. 46
Goodrich Rubber Co., B. F.
Graham Brothers. 110–111
Graver Corp. Inside Front Cover
Groetken Pump Co.
Guarantee Liquid Measure Co. 146–Back Cover
Gulf Ref. Co. 136

Handy Oiler Co.
Hayes Equipment Mfg. Co. 140
Heil Co., The 63
Highland Body Mfg. Co.
Hope Engineering & Supply Co.
Hughes Tool Co. 80
Humble Oil & Refining Co.
Huntley & Huntley 46
Hyde-Schneider Haley Mfg. Co.

Illinois Glass Co.
Imperial Oil Marketing Co. 18
Independent Oil & Gas Co.
Independent Oil Men of America.
India Tire & Rubber Co. 57
Indian Refg. Co.
Ingersoll-Rand Co.
(A. S. Cameron Steam Pump Works).
International Harvester Co. 8
Irving Iron Works Co.

Jenkins Bros. 82
Johns-Manville Co., H. W.

Kanotex Ref. Co.
Keen & Woolf Oil Co. 122–123
Kellogg Co., M. W.
Kellogg Mfg. Co.
Klean Rite Auto Laundry Co.

Lake Petroleum Co.
Lancaster Iron Works.
Leader Iron Works.
Lee Mercantile Co., H. D.
Lewis-Shepard Co. 135
Linde Air Products Co.
Luce Trunk Co.
Lucey Mfg. Co.
Ludlow Valve Mfg. Co. 103

Marks, Alfred C.
Marland Refg. Co. 143
Mars Company.
Marvel Equipment Co. 146–147
McDonald Mfg. Co., A. Y. 73
McNally & Co., Rand.
McSavaney Co. 107
Merit Oil Equipment Co. 132
Metal Hose & Tubing Co. 90–91
Metal Shelter Co. 96
Metric Metal Works.
Meyercord Co.
Midland Specialties Co.
Miller & Co., Inc. Max B.
Miller Petroleum Co. 154
Miller Sons Co., A. D. 100
Milwaukee Tank Works. 131
Morrison Bros. 137
Mullins Body & Tank Co.

National Carbon Co., Inc.
National Checking Co.
National Distributing Co.
National Gasoline Hose Co.
National Petroleum Marketers Assn.
National Petroleum Mutual Fire Ins. Co. 99
National Petroleum News. 20–144
National Recording Pump Co. 80
National Refining Co.
National Transit Pump & Machine Co. 72
Neil & Co., Wm.
Novo Engine Co.

Ohio Valley Ref. Co. 76
Ohmer Fare Register Co. 127
Oil Conservation Engineering Co. 44
Opalume Sign System, Inc. 96
Owosso Boiler & Welding Co.
Oxweld Acetylene Co.

Palm Fechteler & Co. 97
Pennsylvania Refg. Co. 112
Pennzoil Co.
Petroleum Iron Works Co. 58
Pforzheimer & Co., Carl H.
Phillips Co., Waite. 22
Platt Co., W. C. 158
Pressed Steel Tank Co. 19
Prest-O-Lite Co.
Producers & Refiners Corp.
Professional Card Section.
Progress Mfg. Co.
Pulte-Korreck Machine Co.
Pure Oil Co. 9

Quincy Compressor Co.

Raymond Garage Equipment Co. 86
Reading Steel Castings Co., Inc.
Reeves Bros. Co.
Refinery Products Directory. 150–151
Rhodes Co., Jay B. 116
Richmond Engineering Co.
Roper Corp., Geo. D.
Rothermel & Co.
Roxana Petroleum Corp. 11
Roy Sales Co., Inc. 149
Royer Pump & Equipment Co. 155

St. Louis Can Co.
St. Louis Pump & Equipment Co. 13
St. Louis Steel Package Co.
St. Louis Surfacer & Paint Co. 94
Savegas Pump Sales Corp.
Sharples Specialty Co.
Sherwin-Williams Co.
Sinclair Refining Co. 152
Skelly Oil Co.
Spencer Petroleum Co.
Standard Tank Car Co.
Steinke Bros. Mfg. Co. 64
Stevens Grease & Oil Co. 148
Stevens Oil & Grease Co. A. J.
Stewart Bros. Paint Co.
Sun Oil Company.

Texhoma Oil & Refg. Co.
Tide Water Oil Co.
Tiona Petroleum Co.
Tokheim Oil Tank & Pump Co. 23
Transcontinental Oil Co.
Truscon Steel Co.

Union Metal Mfg. Co. 6–7
United Filters Corp. 118
United Lead Co.
U. S. Air Compressor Co.
United States Cast Iron Pipe & Foundry Co. 47
Universal Oil Products Co.

Van Tine, C. C. 118
Viking Pump Co. 46
Vilter Mfg. Co.
Visible Pump Co. 145
Vogt Machine Co., Henry.

Wackman Welded Ware Co. 133
Waverly Oil Works Co.
Wayne Tank & Pump Co.
Wescott Valve Co. 43
Wheaton Brass Works, A. W.
White Co.
White Eagle Oil & Refg. Co.
White Engineering Corp., J. G.
Wichita Pump & Equip. Co. 67
Williams Sealing Corp.
Wilson & Bennett Mfg. Co.
Wilson Welder & Metals Co., Inc.
Worthington Pump & Machinery Corp.

York Safe & Lock Co.
Youngstown Boiler & Tank Co. 120
Youngstown Welding Co.